

1961

1962

# Loyola

C O L L E G E

M O N T R E A L • C A N A D A

- ARTS
- SCIENCE
- ENGINEERING
- COMMERCE



A.M.D.G.

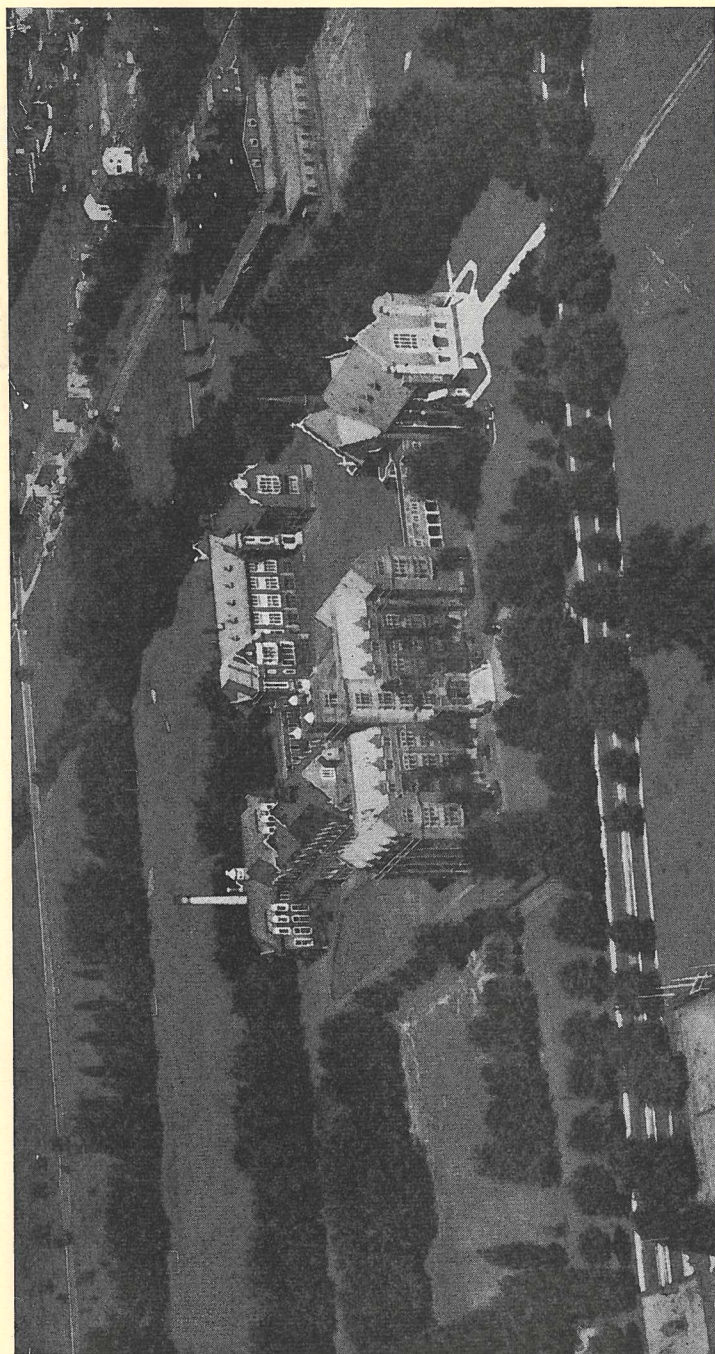
1961 | 1962

General Calendar  
**Loyola College**

ARTS  
SCIENCE  
ENGINEERING  
COMMERCE







Associated Screen News Ltd.  
Stadium

Refectory Building  
New Central Building  
Administration Building  
Junior Building  
Chapel

## COLLEGE REOPENS

Monday, September 18th

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## ACADEMIC CALENDAR

1961 — 1962

Monday, Aug. 7.....Last day for making application for supplemental examinations.

Monday, Aug. 28.....Supplemental examinations begin.

Monday, Sept. 18.....Registration of First Year students: 10.00 A.M.

Tuesday, Sept. 19.....Registration of Second, Third and Fourth Year students: 9.00 A.M. to 12.00 Noon and 1.00 P.M. to 5.00 P.M.

Wednesday, Sept. 20...College Retreat begins.  
Father Rector's talk in Auditorium: 10.10 A.M.

Thursday, Sept. 21....College retreat.

Friday, Sept. 22.....College retreat ends.

Monday, Sept. 25.....First term lectures begin.

Monday, Oct. 9.....THANKSGIVING DAY—Full holiday.

Wednesday, Nov. 1....All Saints' Day.

Friday, Nov. 10.....11.00 A.M.—Anniversary Mass for the deceased members of the staff and students.

Friday, Dec. 8.....Feast of the IMMACULATE CONCEPTION—Full holiday.

Monday, Dec. 11.....Mid-year tests begin in all faculties.

Friday, Dec. 22.....Christmas vacation begins.

Wednesday, Jan. 3....Mid-year final examinations begin in all faculties.

Monday, Jan. 8.....Second term lectures begin.

Friday, Jan. 26.....FATHER RECTOR'S HOLIDAY.

Wednesday, April 18...Easter recess.

Tuesday, April 24.....Lectures resumed.

Wednesday, March 7...Feast of ST. THOMAS AQUINAS.

Friday, March 9.....Celebration of the Feast of ST. IGNATIUS LOYOLA.

Saturday, March 17....ST. PATRICK'S DAY—Full holiday.

Saturday, April 14....Last day of Lectures.

Wednesday, April 25...Final examinations.

Saturday, May 26.....Convocation.

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*Governor-General of Canada.*  
 THE HONOURABLE CHARLES G. POWER, Q.C.,  
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 MR. A. F. MAYNE,  
*General Manager, The Royal Bank of Canada.*

### Committee

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 MR. J. C. WILSON,  
*President, Loyola College Alumni.*  
 MR. E. W. KIERANS,  
*President, Canadian and Montreal Stock Exchanges.*  
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*President, Timmines Limited.*



## Faculty

— REV. D. T. ASSELIN, S.J.	Theology
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MR. M. BLANAR, B.Ed., M.A., Ph.D.	English
MR. J. BUELL, M.A., Ph.D.	English
MRS. E. E. CRAN, B.A., M.A.	Classics
MR. J. P. DOYLE, B.A., B.Paed., M.A.	Philosophy
REV. S. DRUMMOND, S.J.	Biology
MR. C. E. EAPPEN, M.Sc., Ph.D.	Physics
MR. N. N. FELTES, M.A., B.Litt. (Oxon.)	English
REV. A. GRAHAM, S.J.	Chemistry
MR. F. GUADAGNI, B.Eng.	Engineering
MR. H. W. HABERL, B.Com., C.A.	Accounting
MR. H. HABIB, B.A., M.A.	Political Science
MR. F. J. HAYES, B.Sc., Ph.D.	Economics
REV. J. E. HEALEY, S.J.	History
REV. G. HOFFMANN, S.J.	Philosophy
MR. L. HOLLAND, B.A., M.B.A.	Finance
MR. D. M. HOMA, B.Sc., Dipl. Eng.	Mathematics
MR. A. G. HOOPER, M.A., Ph.D.	English
MR. D. HUDSON, B.Sc., B.Eng.	Engineering
MR. ANDRZEJ S. KAWCZAK, Ph.D.	Philosophy
MR. P. J. KEENAN, B.Com., C.A.	Accounting
MR. KIUCK LEE, M.S., Ph.D.	Physics
MR. A. G. LALLIER, B.A., M.A.	Economics
MR. H. LAU, B.A., Dipl. Phil., M.A.	French
MR. LAURIER LAPIERRE, M.A.	History
MR. A. LERMER, M.A.	Economics
MR. L. LEVI, B.Com., C.A.	Accounting
REV. R. LIMOGES, S.J.	Theology
REV. G. MACGUIGAN, S.J.	English
REV. H. MACKINNON, S.J.	History

## Faculty - Cont.

MR. E. A. MACPHEE, B.A.	Physics
REV. H. J. MACPHEE, S.J.	Applied Mathematics
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MR. J. H. MCMAHON, C.A.	Accounting
MR. ANDRÉ MICHALSKI, M.A.	Romance Languages
REV. A. NELSON, S.J.	French
MR. THOMAS NOGRADY, M.Sc., Ph.D.	Chemistry
REV. E. O'CONNOR, S.J.	Mathematics
REV. N. O'NEILL, S.J.	Physics
REV. H. P. PHELAN, S.J.	Philosophy, Sociology
MR. N. G. PILLAI, M.A.	Economics
MR. A. PRILLO, B.Sc., M.A.	Mathematics
MR. E. J. ROESCH, M.A., Ph.D.	Philosophy
MR. A. SAHABETTIN YALCIN, M.Sc., Ph.D.	Engineering
MR. L. A. SAINT-PIERRE, B.C.L.	Commercial Law
MR. D. SAVAGE, M.A., Ph.D.	History
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REV. G. W. TAIT, S.J.	Mathematics
MR. G. J. J. TULCHINSKY, B.A., M.A.	History
REV. H. WARDELL, S.J.	Engineering Drawing
MR. R. WAREHAM, B.A., M.A.	English
MR. E. WHITEHALL, C.A.	Accounting
MISS D. YATES, B.A., B.Ed., C.Fr.Litt.	French
MISS KATHERINE E. YOUNG, B.A. (Oxon.)	English
MAJOR P. CARTON, C.O.	Loyola College C.O.T.C.
CAPTAIN J. KISELIUS	University Staff Officer
MR. E. MEAGHER, B.A., B.Ph.Ed.	Athletic Director
MR. H. ROUND	Placement Officer
	(National Employment Service)



## HISTORY

Loyola College, conducted by the Fathers of the Society of Jesus, was incorporated by an act of the Quebec Legislature on February 2nd, 1899. On February 5th, 1899, Laval University officially extended its Bachelor of Arts Degree to Loyola students under the special privileges granted by the Holy See, in the Constitution "Jamdudum", which gave to Loyola College autonomy in the organization of its courses of study and in the setting and correction of examinations. A similar arrangement was made with the University of Montreal when it began.

Loyola College instituted its Faculty of Science in 1943 and its Faculty of Commerce in 1948. All courses of these two Faculties are conducted at the College, though, by special arrangement, the curriculum and examinations come under the supervision of the University of Montreal.

The first site of Loyola College was on St. Catherine Street when it began its classes in 1896. Two years later, in 1898, the site was changed to Drummond Street in order better to accommodate the growing number of students, and, eighteen years later, in 1916, the whole College moved to its present site in the West End. The six buildings are of English Collegiate Gothic in the Tudor and early Renaissance style. The Stadium, or indoor rink, has the ice-surface of regulation size, and artificial ice is part of its equipment.

## SYSTEM OF EDUCATION

The educational system is substantially that of all Jesuit Colleges which is clearly set forth in the "Ratio Studiorum". Education in its completest sense, as understood by the Fathers of the Society, is the full and harmonious development of all the faculties. It is not, therefore, mere instruction, nor communication of knowledge. In fact, the acquisition of knowledge, though it necessarily accompanies any right system, is a secondary result of education. Learning is the instrument of education not the outcome. Its outcome is culture, mental and moral, and such studies, languages or sciences are chosen as will most effectively further this end.

In the Arts Course the preference is given to the Languages and Philosophy over all other subjects, as the fittest instruments to promote this intellectual and moral growth. But this preference is not exclusive. The importance of mathematics and the natural sciences, as instruments of education, has not been under-estimated.

Likewise in the Science, Engineering and Commerce Courses, the student, while receiving a training in his chosen branch of studies, must also take Theology, English, French, Philosophy and Public Speaking.

## MORAL AND RELIGIOUS TRAINING

The College authorities are convinced that without religion there can be no perfect education in the true sense of the word, that is to say, no complete and harmonious development of the intellect and the heart of man. They hold, furthermore, that religious truth, being definite and certain like any other truth, is as susceptible of being taught as languages or mathematics. Hence religion is an integral part of the curriculum. The students are required to comply with their religious obligations regularly, and to make annually a spiritual retreat of three days. Societies and other associations are also formed for the fostering of piety.

## Library

The *College Library* comprises about thirty-five thousand volumes; of these more than six thousand volumes are in the College Reading Room where, also, the most useful current magazines are always on file.

A growing record collection is available for student use in the Music Room attached to the Library.

## STUDENT EXTRACURRICULAR ACTIVITIES

The Student Administrative Council is the governing body of student extracurricular activities. It represents the students before the administration and the general public. The SAC is composed of a five-man executive, which runs the day-to-day operations of the council, and two boards, one made up of the elected student representatives, which sets general policy, and the other made up of the presidents of all student organizations, which coordinates all activities on campus. The compulsory student activity fee is distributed among the societies and committees by a student Finance Committee elected by the SAC.

There are some two dozen societies and several permanent committees of the SAC on campus to satisfy the varied interests of the students in the fields of journalism, drama, debating, athletics, politics, and public affairs as well as on the spiritual, cultural, and social level. A detailed description of these and a calendar of events are contained in the student Handbook published annually in the fall.

## Eligibility

Students taking part in dramatic performances, public debates, oratorical or elocution contests, or athletic events, as well as all officers of student organizations are subject to the following eligibility rules: (1) They must have shown satisfactory conduct and application and must remain in good academic standing; (2) they must not be under censure at the time of their election or appointment.

## The Apostleship of Prayer, League of the Sacred Heart

The object of the Apostleship is two-fold: first, to instil into the students that apostolic spirit which, as public men, it is hoped they will later on exercise in the world; and secondly, to join in the great work of reparation for the outrages daily offered to Our Lord.

The public exercises, besides the regular Promoters' meetings, consist of monthly meetings of reparation to the Blessed Sacrament, on the First Friday of each month.

## Sodality of Our Lady

This is an association established by the Society of Jesus four centuries ago and commissioned by Pope Pius XII in 1948 to meet the needs of the Church by forming competent lay leaders for the apostolate. The members conduct regular meetings in order to assist the intellectual, social and spiritual progress of the College, and to promote work in the hospitals and among the poor and underprivileged of the City.

## Athletic Association

The Loyola College Athletic Association was formed to aid the Director of Athletics in the promotion and supervision of all athletics in the College, and to create and foster a proper college spirit among the students.

An Athletic Board of Control, composed of Faculty members, guides the policy and over-all direction of the Physical Education program.

No student may participate with an outside organization in any athletic activity without the written permission of the L.C.A.A.

## Placement Bureau

This is a special service to assist undergraduate students and graduates in obtaining summer and permanent employment. The Bureau also arranges for the officers of a number of industries and corporations to visit the campus each year in order to interview Loyola undergraduates and graduates for positions.



### **The Loyola College Alumni**

The Loyola College Alumni has as its object to preserve and strengthen the ties of fellow-feeling and friendship among former students of the College and to afford them an opportunity of showing their attachment and esteem for their Alma Mater.

Any former student of the College may become a member of the Association, but may not become an officer until three years after his class has graduated from the College.

A General Meeting is held every year at the College. At this meeting officers for the coming year are elected, and all matters of general business transacted.

The office of the permanent Secretary is located at Loyola College.

### **University Reserve Training Plan (URTP)**

The University Reserve Training Plan is designed to qualify College students for commissions in The Royal Canadian Navy, The Canadian Army and the Royal Canadian Air Force.

### **Loyola College Contingent C. O. T. C.**

The Loyola College Contingent, Canadian Officers' Training Corps, is organized under the authority of Army Headquarters, Ottawa, and for all purposes of discipline and training is under the General Officer Commanding, Quebec Command, represented by a Resident Staff Officer attached to each University. The aim of the newly organized C.O.T.C. is to ensure Canada of its future leaders in Science, business, citizenship and in the event of war.

This new establishment allows for a definite quota which is to be filled by volunteers from the College courses and further approved by the University Selection Board. The selected volunteer is given the rank of Student Provisional 2nd Lieutenant throughout the three years of his training and a choice of any branch of the Army. Also if the student so desires he may join, upon graduation, either the Canadian Army Active Force, Reserve Force, Supplementary Reserve or Retire. Each year of his training period is divided into 1: Theoretical lectures (Military Science, History, Law and Geography) carried on during the academic year, and, 2: a Practical Phase, based upon his chosen branch, carried out during the Summer Vacation at an allotted Military Camp.

Upon the completion of the student's 2nd year training he will be qualified 2nd Lieutenant, Reserve Force and is commissioned as such. At the end of his 3rd year, he will be qualified Lieutenant, Active or Reserve Force. He can qualify in the rank of Captain, Reserve Force by joining a Reserve Force Unit within one year of completing his 3rd year C.O.T.C. and completing two years' satisfactory service.

### **LOYOLA FLIGHT R.C.A.F.**

To qualify for enrolment in the University Squadron a student must be a) between the ages of 17 and 26; b) able to participate in R.C.A.F. Summer Training; c) enrolled in a College course which is a requisite of the branch for which application is made; d) medically fit to R.C.A.F. standards; e) Canadian citizen or British subject resident in Canada with the status of a landed immigrant.

Successful candidates are enrolled in the Primary Reserve in the rank of Flight Cadet.

For Flight Cadets of the Loyola Flight, each year is divided into two training periods: 1) *Winter Training*, which takes place at the College. The winter training syllabus provides for 64 hours of lectures and parades during each academic year. This training is designed to familiarize URTP

personnel with the duties and responsibilities of junior officers and to give a general knowledge of the R.C.A.F., its functions, and its role in defence. The syllabus includes lectures in world affairs, geopolitics, air power, civil defence and military history. 2) *Summer Training*, which is carried out at R.C.A.F. Stations. A maximum of 22 weeks of R.C.A.F. Training and employment terminating on or before September 15th is offered. All successful candidates for the URTP attend officers' school in the first half of the first summer. Those who are enrolled in a branch for which a course is conducted then proceed on formal course training while the remainder receive supervised employment at stations across Canada. Formal courses may be of 1, 2 or 3 summers' duration depending on the branch of training. Each year a number of Flight Cadets are selected to take their third summer of training at an overseas unit.

### **REGULAR OFFICER TRAINING PLAN (ROTP)**

The Armed Forces of Canada subsidize a limited number of undergraduate College students who are willing to accept a military service obligation as a commissioned officer under the provisions of the Regular Officer Training Plan.

College students found acceptable will be enrolled in the service of their choice (Royal Canadian Navy, Canadian Army (Regular) or Royal Canadian Air Force), as an officer cadet on a career basis. Upon achievement of degree status and fulfilment of military training requirements, Officer Cadets are promoted to commissioned rank and required to serve a minimum of three years immediately thereafter in the service which sponsored their training. After such service, an officer may be released at his own request providing a period of national emergency does not exist.

A student may qualify for subsidization under this Plan if he a) is a Canadian citizen or British subject resident in Canada with the status of a landed immigrant; b) has attained his 16th but not his 20th birthday on the 1st of January of the year of enrolment in College; c) is physically fit for enrolment in the branch and service of his choice; d) is single and intends to remain so during his officer cadet training period.

Successful applicants will receive financial assistance as follows: Pay \$63.00 per month—Living allowance \$65.00 per month—Holiday up to thirty days annually with full pay and allowances. Tuition and other essential College fees provided by Department of National Defence. Text-book and Instrument grant \$75.00 per year. Medical and Dental care expenses provided by Department of National Defence. Uniforms and accoutrements provided by the Department of National Defence. Aircrew Trainees receive \$75.00 per month flying pay while undergoing summer training.

As an officer cadet, each student will undertake a) continuation of a normal academic workload and maintenance of a satisfactory standing therein; b) Military training, which is divided into two phases, theoretical and practical, taken during the student's first, second and third year as an ROTP Cadet.

i) The Theoretical phase consists of academic military studies presented as lectures, lecture demonstrations and discussions on subjects that will provide a background for the practical phase.

ii) The practical phase is full time duty with the regular forces taken during the summer vacation.

Students interested in either the ROTP or URTP may obtain further information and application instructions from Major F. Ledoux, R.S.O., Loyola College, C.O.T.C., or Reverend H. Smeaton, S.J., Loyola College.



## ENTRANCE SCHOLARSHIPS AND BURSARIES

### For Junior Matriculation Students

**Lilly E. F. Barry Memorial Scholarship.** One scholarship. Full tuition in Arts, Science or Commerce renewable yearly to the end of four years' tenure. The winner is decided by competitive examinations.

**Loyola College Scholarships.** Five scholarships. Full tuition in Arts, Science or Commerce renewable yearly to the end of four years' tenure. The winners are decided by competitive examinations.

**Bryan Memorial Scholarship.** One scholarship of the total value of \$320.00, renewable yearly to the end of four years' tenure. Given each year in memory of Rev. Wm. X. Bryan, S.J., and open to students of the Catholic High School Commission of Montreal.

**Doherty Memorial Scholarship.** One scholarship of the total value of \$320.00, renewable yearly to the end of four years' tenure. Given each year in memory of Rev. Wm. Doherty, S.J., and open to students of Daniel O'Connell High School.

**Jones Memorial Scholarship.** One scholarship of the total value of \$320.00, renewable yearly to the end of four years' tenure. Given each year in memory of Rev. Arthur Jones, S.J., and open to students of St. Leo's High School.

**Loyola Mothers' Guild Bursaries.** Two Bursaries of the value of \$150.00 each. Awarded by the Loyola Mothers' Guild to two talented and deserving students of Loyola High School who desire to register in first year.

**McMahon Memorial Scholarship.** One scholarship of the total value of \$320.00, renewable yearly to the end of four years' tenure. Given each year in memory of Rev. Thomas McMahon, S.J., and open to students of Loyola High School.

**McCarthy Memorial Scholarship.** One scholarship of the total value of \$320.00, renewable yearly to the end of four years' tenure. Given each year in memory of Rev. Hugh McCarthy, S.J., and open to students of Resurrection and Ville La Salle High Schools.

**O'Bryan Memorial Scholarship.** One scholarship of the total value of \$320.00, renewable yearly to the end of four years' tenure. Given each year in memory of Rev. Gregory O'Bryan, S.J., and open to students of St. Willibrord's High School.

**O'Dowd Memorial Bursary.** A Bursary of the total value of \$400.00, renewable yearly to the end of four years' tenure. Given each year in memory of Nora O'Dowd, to a talented and deserving student.

**The Rector's Scholarship.** A scholarship of the total value of value of \$320.00, renewable yearly to the end of four years' tenure. Given each year by the Rector to the student who has attained the highest average over the four years at Loyola High School.

**St. Ignatius Parish Bursary.** A Bursary of the total value of \$400.00, renewable yearly to the end of four years' tenure. Given each year by the Parishioners of St. Ignatius Parish, to a talented and deserving son of a member of the Parish who desires to enter the Faculty of Arts.

### For Senior Matriculation Students

**Bartlett Memorial Scholarship.** One scholarship of the total value of \$240.00, renewable yearly to the end of three years' tenure. Given each year in memory of Rev. E. Bartlett, S.J., and open to students of D'Arcy McGee High School.

**Carling Memorial Scholarship.** A scholarship of the total value of \$300.00, renewable yearly to the end of three years' tenure. Given by the late Mrs. Ursula Carling. Not tenable with other scholarships or bursaries.

**Cloran Memorial Scholarship.** One scholarship of the total value of \$240.00, renewable yearly to the end of three years' tenure. Given each year in memory of Rev. Raymond Cloran, S.J., and open to students of Cardinal Newman High School.

**Gasson Memorial Scholarship.** One scholarship of the total value of \$240.00, renewable yearly to the end of three years' tenure. Given each year in memory of Rev. Thomas Gasson, S.J., and open to students of Catholic High School.

## UNDERGRADUATE SCHOLARSHIPS AND BURSARIES

**L. J. A. Amyot Scholarship.** A scholarship of the value of \$100.00, awarded annually to a student entering fourth year in the Faculty of Arts who has attained the highest marks during the first three years.

**Cuddy Memorial Bursary.** A Bursary of the value of \$100.00, for one year, awarded annually to a talented and deserving student. Given each year in affectionate remembrance of a graduate of the class of 1917, by John P. Cuddy.

**Friends of Loyola Bursary.** A Bursary of the total value of \$320.00, renewable yearly to the end of four years' tenure. Awarded when vacant to a talented and deserving student, in memory of James Corcoran, class of '30, and of deceased members of the staff.

**Gutelius Memorial Bursary.** A Bursary of the value of \$100.00, awarded annually to a talented and deserving student who desires to take up the study of medicine. In memory of Charles David Gutelius.

**Halley Memorial Scholarship.** A scholarship of the value of \$100.00 a year for two years. Given by Mr. and Mrs. P. F. Halley in memory of their son, Arthur Patrick, class of '46, and awarded to pre-medical students in third and fourth years.

**Knights of Columbus, Montreal Council No. 284 Bursary.** A Bursary of the value of \$150.00, awarded annually to a talented and deserving student, preferably to a son of a member of the Montreal Council.

**Loyola Alumni Bursary.** A Bursary of the value of \$100.00. Given each year by the Loyola College Alumni Association and awarded to a talented and deserving student.

**Mahoney Memorial Bursary.** A Bursary of the total value of \$320.00, renewable yearly to the end of four years' tenure. Given by the Business Woman's Sacred Heart Retreat Association, in memory of Mother Ellen Mahoney, and awarded, when vacant, to a Montreal student desirous of studying for the Church.

**Murphy Memorial Bursary.** A Bursary of the total value of \$320.00, renewable yearly to the end of four years' tenure. Given by Mr. and Mrs. George B. Murphy, in memory of their son, of the class of '29, and awarded when vacant to a talented and deserving student from Sherbrooke.

**Stanford Memorial Bursary.** A Bursary of the total value of \$320.00, renewable yearly to the end of four years' tenure. Given by Mrs. J. S. Stanford in memory of the late J. S. Stanford and awarded to a talented and deserving student.

**State Council of the Knights of Columbus of the Province of Quebec Bursary.** A Bursary of the value of \$100.00 for one year's tenure. Awarded to a talented and deserving student determined by the Officers of the Executive of the State Council of the Knights of Columbus of the Province of Quebec.



**Charles Brown Memorial Bursary.** A bursary of the value of \$50.00, donated by the N.D.G. Businessmen's Association in memory of the late Charles Brown, to be granted to a deserving student.

**Dominion-Provincial Loans and Bursaries.** The Quebec grants are half bursary and half loan, the latter being repayable one year after leaving the College. The candidate must be a Canadian citizen and have resided in the Province of Quebec for the past five years. These bursaries are open to students of the Science, Engineering and Commerce Faculties.

**Loyola Alumni Student Loan Fund.** A special Fund established by the Loyola Alumni Association has been made available for student loans. To be eligible for a loan a student must have a satisfactory academic record and must be able to show that he needs the loan to continue his studies. Applications for loans may be obtained from the Registrar's Office.

**Commonwealth Scholarships.** Under a Plan drawn up at a conference held in Oxford in 1959, each participating country of the Commonwealth offers a number of scholarships to students of other Commonwealth countries. These scholarships are mainly for graduate study and are tenable in the country making the offer. Awards are normally for two years and cover travelling, tuition fees, other university fees, and a living allowance. For details of the awards offered by the various countries consult the Registrar's office or write to The Canadian Universities Foundation, 77 Metcalfe Street, Ottawa, Ontario.

**Loyola Bursary for the Blind.** A Bursary of the value of full tuition for one year and renewable over a four year period will be awarded to a blind student who is qualified to follow regular courses in any faculty.

**African Bursary.** A bursary of full tuition for one year and renewable over a four year period is awarded by Loyola College to a qualified and deserving student from any Country in Africa. This bursary is awarded to one who intends to aid in his country's development.

## ACADEMIC AWARDS

### Special Awards

**Governor-General's Medal** for highest over-all average in the four years of Arts Course.

**Lieutenant-Governor's Silver Medal** to the outstanding Engineering student among the graduates.

**Lieutenant-Governor's Bronze Medal** for the highest over-all average in the four years of Commerce.

**Gold Medal and Cash Prize** for the outstanding Philosophy student among the graduates on the recommendation by the Philosophy Professors.

**Twenty-five Dollar Cash Prize** for the highest ranking honours student among the graduates.

**Special Cash Prize** for the highest ranking pre-Medical student among the graduates.

**Special Cash Prize** for the highest four-year average in Theology in each of Arts, Science and Commerce.

The **William Henry Atherton Prize of \$15.00** to be awarded to the highest ranking student in History.

The **"Loyola Medal"** donated by the Loyola College C.O.T.C. to the representative Loyola student among the graduates.

**Gold Medal** presented by Reverend Father Rector to the winner of the Public Speaking Contest.

## Prizes

For the highest average in Freshman Arts, Sophomore Arts, Junior Arts, Freshman Science, Sophomore Engineering, Sophomore Honours Science, Junior Engineering, Junior Honours Science, Freshman Commerce, Sophomore Commerce and Junior Commerce.

For the highest ranking students in Freshman Arts Latin, Sophomore Arts Latin, Sophomore Arts English, Freshman Science, Science and Mathematics, Arts subjects in Sophomore Science, Freshman Commerce Accounting, Sophomore Commerce Accounting, Sophomore Commerce Arts subjects and Economics 304 in Junior Commerce.

## INCOME AND NEEDS OF THE COLLEGE

The endowment of Loyola College in buildings and educational equipment is something in excess of four million dollars. However, a debt of considerable proportions remains in the forms of mortgages and loans on the buildings and equipment.

In view of the great increase in applications, the physical expansion of Loyola is a pressing need. The Development Plan of Loyola College calls for a Science Building, a Students' Residence, a Students' Union, a Library, and a Gymnasium. The present High School Building will have to be replaced by a building on another site.

Though there are twenty-five scholarships and bursaries offered presently, this is inadequate to meet the increasing number of requests from talented students for financial aid in obtaining a college and university education. Both annual and founded scholarships and bursaries are needed for this worthy purpose. The names of the donors, or the names of the persons in whose memory they are given, will compose the titles of these scholarships and bursaries.

Gifts or bequests to Loyola College for religious or educational purposes will permit the donor to enjoy the benefits from the relevant exemptions under our tax laws. For the guidance of those who may desire to make benefactions to the College by testamentary bequest, the following form is suggested:

*I give and bequeath to Loyola College, Montreal,  
in the Province of Quebec, .....dollars.*

## ACADEMIC REGULATIONS

### Attendance

Regular attendance at lectures is required in all subjects. A Freshman student is barred from sitting, at the regular time, for the examination in any subject of which he has missed, without adequate reason, 10% of the lectures.

The sanctions to be applied to students of other years who fail to attend lectures are left to the Dean and the professors concerned to decide.

### Discipline

The education system employed by the College includes as one of its most important features the formation of character. For this reason, the discipline, while considerate, is firm, especially when the good of the Student Body or the reputation of the institution is concerned.

While it is the policy of the Faculty to trust as much as possible to the honour of the students themselves in carrying on the government of the College, nevertheless, for the maintaining of order and discipline,



without which the desired results are not attainable, regular and punctual attendance, obedience to College regulations, serious application to study and blameless conduct, will be insisted upon. Any serious neglect of these essential points will render the offender liable to moderate punishment, to suspension or even to dismissal, at the discretion of the College authorities.

### Reports

Professors report frequently to the Dean on the academic standing of the students and to the Dean of Men on attendance and general conduct.

A detailed report of the students' scholastic standing is sent to the parents or guardians at mid-year and after the final examinations. Special reports on individual students will be furnished at any time upon request.

Each student is entitled on leaving the College to a transcript of his record free of charge. For each additional transcript a fee of One Dollar will be charged. A fee of Fifty Cents per copy is charged for a partial transcript if the student's studies are still in progress. No transcripts will be issued during the periods of commencement, registration and examination.

### COURSES OF STUDY OFFERED

The College offers the following four-year courses:

1. Courses leading to the Honours Bachelor of Arts in the following fields: Economics, English, History. Philosophy is a required Discipline with each of these fields of study.
2. Courses leading to the General Bachelor of Arts degree.
3. Courses leading to the General Bachelor of Arts degree with special modifications to meet pre-Medical and pre-Dental requirements.
4. Honours Bachelor of Science courses in Chemistry and Mathematics. The Honours Chemistry course is accredited as fulfilling all the requirements for Professional Membership in the Chemical Institute of Canada.
5. Courses in General Science with continuation subjects in Physics, Chemistry, Biology and Chemistry, or Mathematics.
6. Courses leading to the General Bachelor of Science degree with special modifications to meet pre-Medical requirements.
7. Courses leading to the degree of B.Sc. with a certificate in Engineering. (Holders of this Certificate are eligible to enter the second last year of their chosen branch of Engineering at McGill University.) Those students who cannot complete the course for the B.Sc. Degree at Loyola with the certificate in Engineering may follow an abbreviated course which prepares them to transfer at the end of Third Year.
8. Courses leading to the Bachelor of Commerce degree with majors either in Accounting or Economics.

Students holding the Bachelor of Commerce degree with a major in Accounting from Loyola College are usually exempted from the Intermediate examinations of the Institute of Chartered Accountants of Quebec. They are also usually exempted from three of the five years of apprenticeship required for the C.A. certificate. Further information may be obtained from the Registrar.

### ACADEMIC REQUIREMENTS FOR ENTERING FIRST YEAR

An application for admission to the First Year in any Faculty will be considered if the applicant has obtained, with the subjects and grade required by the Faculty in which he wishes to study, the Loyola High School Diploma (College Preparatory), the Quebec Junior Catholic High

School Leaving Certificate (College Preparatory), the Quebec Junior High School Leaving Certificate or the McGill Junior School Certificate (College Preparatory). The subjects and grades required by each Faculty are as follows:

- ARTS:** The matriculation transcript must include English, French, Latin, elementary Algebra and Geometry. The marks in Latin and English should be above average.
- SCIENCE and ENGINEERING:** The matriculation transcript must include English, French, elementary Algebra, Geometry and one out of Physics, Chemistry and Trigonometry. The marks in Science and Mathematics should be above average.
- COMMERCE:** The matriculation transcript must include English, French, elementary Algebra and Geometry.

Any of the following certificates is considered equivalent to the four named above and will be accepted if it contains the required subjects and grades as outlined above for the Faculty to which application is made; Ontario Secondary School Graduation Diploma; Manitoba Grade XI certificate; Saskatchewan Grade XI certificate; Alberta Grade XI certificate; British Columbia Junior Matriculation certificate; New Brunswick Junior Matriculation certificate; Nova Scotia Grade XI certificate; Prince of Wales College, Prince Edward Island Second Year certificate; Newfoundland Grade XI certificate; Great Britain, General Certificate of Education, passes at the ordinary level in five subjects (with appropriate subjects according to faculty chosen).

When there is doubt about the adequacy of an applicant's previous studies he will be required to pass some or all of the entrance examinations held at Loyola College during the first week in September. The matter of these examinations is equivalent to that presented for the Junior School Certificate of the province of Quebec. The fee for each paper is five dollars.

A candidate cannot be admitted to First Year without a sufficient command of English to enable him to write it fluently and take dictation easily. If there is some doubt about this a special examination can be had.

### ACADEMIC REQUIREMENTS FOR ENTERING SECOND YEAR

An application for admission to the Second Year in any Faculty will be considered if the applicant has obtained, with the subjects and grades required by the Faculty in which he wishes to study, the Quebec Senior Catholic High School Leaving Certificate, the Quebec Senior High School Leaving Certificate or the McGill Senior School Certificate. The requirements special to the different Faculties are as follows:

- GENERAL** A total of ten papers including English, French and Latin.
- ARTS:** The marks in English and Latin should be above average.
- ARTS** A total of ten papers including English, French, Latin, Pre-Medical: Trigonometry and Intermediate Algebra. The marks in English and Latin should be above average.
- ENGINEERING:** A total of ten papers including English, French, Physics, Chemistry, Senior Algebra, Analytic Geometry and Trigonometry if not already a constituent subject of Junior Certificate. In Science and Mathematics' subjects, the marks should give evidence of ability for Engineering.
- HONOURS CHEMISTRY, MATHEMATICS and PHYSICS:** The same requirements as for Engineering except that an average of 70% is required in Science and Mathematics subjects and evidence of high ability in the major subject chosen.



**GENERAL SCIENCE:** A total of ten subjects including English, French, Physics, Chemistry, Trigonometry, Senior Algebra and Analytic Geometry.

Any of the following certificates is considered equivalent to the four named above and will be accepted if it contains the required subjects and grades as outlined above for the different Faculties: Ontario Grade XIII certificate; Grade XII certificate of Manitoba, Saskatchewan and Alberta; British Columbia Senior Matriculation certificate; Nova Scotia Grade XII certificate; Prince Edward Island Third Year certificate of Prince of Wales College; Great Britain, General Certificate of Education with passes in five subjects, including two appropriate subjects at Advanced Level.

Application should be made early. The required forms obtainable from the Registrar's Office, are to be filled out and returned along with an official transcript of marks, a testimonial of good character and a vaccination certificate. If any of these documents are not immediately available, they should be forwarded as soon as possible. Once the candidate is accepted these credentials become the property of the College and are kept permanently on file.

Upon notification of successful application, the candidate shall forward to the College the registration fee of Five Dollars (\$5.00). Prospective resident students shall also forward the room deposit of Fifty Dollars (\$50.00). No reservation will be made for the candidate until these conditions are met. The room deposit of \$50.00 will be returned if application for residence is cancelled before September 1st.

#### **Registration**

All students are required to register on the dates assigned in the Academic Calendar. A fee of Five Dollars (\$5.00) is charged as a penalty for late registration.

#### **Admission of Special Students**

Students not proceeding to a degree may enter any one of the four years for which they are prepared.

Prospective students under this section should correspond with the Dean in regard to the arrangement of their courses.

#### **REQUIREMENTS FOR REGISTRATION**

Before a new student may register he must fill out an Application for Admission. In complying with the instructions on this application, the applicant will send to the Registrar a record of his High School studies and will have forwarded a letter of recommendation, preferably from the Principal of the school he last attended. Then the student will be notified regarding the Committee on Admissions' decision on his application. If the student is accepted, he may register on the day of registration.

Students who have attended the college during the previous year, must give notice of their intention of returning by July the 15th. If this notice is not given, a fee of \$10.00 will have to be paid at the time of Registration.

If a student has attended the college in the past but not during the previous year he must notify the Registrar by July the 15th of his intention to return or pay the additional fee of \$10.00 at Registration time. He will be permitted to register only when permission has been given by the Dean or the Registrar.

#### **REGULATIONS REGARDING TUITION AND FEES**

Tuition and Fees are due and payable at the time of registration. However, where this is not possible, a student may with the consent of the Bursar, pay Tuition and Fees in two installments, the first at registration and the second on January 15th following. In such cases an installment fee of \$10.00 will be charged.

Other information regarding Tuition and Fees will be found on pages 65-66 of this Prospectus.

### **EXAMINATIONS and PROMOTIONS**

#### **General Regulations**

To pass his year a student must obtain the over-all average required in his Faculty and pass each subject as well. The pass marks are given below for the different Faculties.

A student may be promoted if he has obtained the required over-all average and failed in not more than one subject. The subject failed, however, may not be one prerequisite for the work of his succeeding year. A supplemental examination in the subject must be passed before the student will be promoted again to another year.

Students in Senior Year who have failed a subject in Junior must pass the supplemental in that subject before the beginning of the second term.

#### **REGULATIONS SPECIAL TO EACH FACULTY**

##### **Arts**

In the Faculty of Arts, final examinations are held on the completion of each course: In January, for half-courses (i.e., courses covering the first term); and in May, for full courses and for half-courses covering the second term.

For promotion, a student must obtain an over-all average of 50%; this average is computed on the total marks obtainable at the end of the scholastic year in May. In addition, he must not have a mark lower than 50% in any subject. A student with an over-all average of 50%, but under 50% in any subjects, must write supplemental examinations in these subjects in September in order to be considered eligible for promotion.

Honours students must maintain an overall average of 65%.

The conditions for entering Honours courses in Second year are as follows:

- (a) No student shall be allowed to take Honours in a subject in which he has failed to obtain at least Second Class Honours in his First year.
- (b) Permission must be obtained from the Dean and the Department in which the student wishes to take Honours.
- (c) Students who fail to obtain 65% in Second or Third year must transfer to the General Course the following year or years.

##### **Science and Engineering**

Final examinations in all subjects are held in May and cover the work of the entire year. If, however, a subject is completed at mid-year the examination in that subject will be held in January.

Tests in each subject are held two or three times during the year. The marks assigned to these tests will be announced by the Professor.

To pass his year the student must have an overall average of 50% and 50% in each subject.

Honours students must have an overall average of 65% and at least 50% in each subject to maintain honours standing. If they have made below 50% in a subject they may be allowed to write a supplemental examination in that subject to regain honours standing.

##### **Commerce Course**

Final examinations in all subjects are held in May and cover the work of the entire year.

Tests in each subject are given two or three times during the year. The value assigned to these tests will be announced by the Professor.

A student passes his year if he has an overall average of 60% and not below 50% in any subject.

#### SUPPLEMENTAL EXAMINATIONS

Supplemental examinations are held before the opening of classes in September.

The closing date for applications for supplemental examinations and the examination date are given on page 4.

A Senior student carrying a failure from his Junior year will be given an opportunity of writing a supplemental examination in that subject before the beginning of his second term.

The fee for each supplemental examination written at the regular above-mentioned times is Five Dollars (\$5.00). Should permission be granted a student to write at any other time the fee is Ten Dollars (\$10.00) for each examination.

#### DEGREES

##### Requirements for the Bachelor's Degree

##### Bachelor of Arts (Honours)

In each of the Second, Third and Fourth years the student must maintain 65%.

##### Bachelor of Arts (General)

In each of the four years the student must have an overall average of 50% and 50% in each subject.

##### Bachelor of Science (Honours)

In each of the four years the student must have an overall average of 65% and 50% in each subject.

##### Bachelor of Science (General)

In each of the four years the student must have an overall average of 50% and 50% in each subject.

##### Bachelor of Commerce

In each of the four years the student must have an overall average of 60% and 50% in each subject.

#### ACADEMIC HONOURS

For second class standing in the year's work an overall average of 65% is required.

For first class standing in the year's work an overall average of 80% is required.

##### The Bachelor's Degree is granted:

Cum laude—to those with a four-year average between 70% and 80%.

Magna cum laude—to those with a four-year average between 80% and 90%.

Summa cum laude—to those with a four-year average of 90% or over.



#### OUTLINE OF COURSES

##### BACHELOR OF ARTS (HONOURS)

Courses to be arranged with the Department in which honours work is to be done.

##### BACHELOR OF ARTS (GENERAL) COURSE

Year	Subject	Year	Subject
<b>First</b>	English 105 and 106, French 101, Latin 101, Theology 101, Mathematics 101. *One Elective.	<b>Second</b>	English One Full Course, French 202, Latin 202, Philosophy 202, Theology—Full course One Elective.
<b>Third</b>	History (one course), Philosophy 303, Philosophy 405, Theology—Full course One Science Elective, One more Elective.	<b>Fourth</b>	Philosophy 404, Philosophy 405, Sociology 101, Theology 404, Two Electives.

##### BACHELOR OF ARTS (PRE-MEDICAL) COURSE

Year	Subject	Year	Subject
<b>First</b>	English 105 and 106, French 101, Latin 101, Mathematics 101, Theology 101. *One Elective.	<b>Second</b>	Biology 202, English One Full Course, French 202, Latin 202, Philosophy 202, Theology—Full course
<b>Third</b>	Biology 304, Biology 305, Chemistry 101 and 102, Philosophy 303, Physics 101, Theology—Full course	<b>Fourth</b>	Biology 406, Biology 408, Chemistry 211 and 212, Chemistry 221 and 222, Chemistry 230, Philosophy 404, Theology—Full course

\*One course from Economics 202, Greek 101, History 101 and 102.



### HONOURS CHEMISTRY COURSE

Year	Subject	Year	Subject
<b>First</b>	Algebra (Maths. 103), Analytic Geometry (Maths. 102b), Chemistry 101 and 102, English 101, 102, French 103 or 105, Physics 101, Public Speaking, Theology 101, Trigonometry (Maths. 102a).	<b>Second</b>	Analytical Geometry (Maths. 206), Calculus (Maths. 205), Chemistry 211, Chemistry 212, Chemistry 221 and 222, Chemistry 231, Philosophy 212, French 204 or 206, Theology—Full course
<b>Third</b>	Chemistry 313, Chemistry 323, Chemistry 324, Chemistry 332 and 333 Chemistry 334, Mathematics 309, English One Full Course, Philosophy 313, Physics 303, Theology—Full course	<b>Fourth</b>	Chemistry 425, Chemistry 426, Chemistry 435, Chemistry 436, Chemistry 437, Chemistry 438, Physics 410, Physics 415, Philosophy 414, Theology—Full course

### HONOURS MATHEMATICS COURSE

<b>First</b>	Algebra (Maths. 103), Analytic Geometry (Maths. 102b), Chemistry 101 and 102 English 101, 102, French 103 or 105, Physics 101, Public Speaking, Theology 101, Trigonometry (Maths. 102a).	<b>Second</b>	Algebra (Maths. 208), Analytic Geometry (Maths. 206), Analytic Geometry (Maths. 207), Calculus (Maths. 205), Chemistry 231, Philosophy 212, French 204 or 206, Theology—Full course
<b>Third</b>	Algebra and Calculus (Maths. 308), Mathematics 311, Differential Equations (Maths. 309), English One Full Course, Mathematics 417, Science 401, Philosophy 313, Physics 303, Theology—Full course	<b>Fourth</b>	Mathematics 417, Physics 414, Mathematics 412, Number Theory (Maths. 416), Philosophy 414, Theology—Full course

### GENERAL SCIENCE CHEMISTRY

First Year is the same as in Honours Chemistry.

Year	Subject
<b>Second</b>	Chemistry 211, Chemistry 212, Chemistry 221 and 222, Philosophy 212, French 204 or 206, Mathematics 206, Theology—Full course
<b>Third</b>	Chemistry 323, Chemistry 324, Chemistry 313, English Full Course, Philosophy 313, Theology—Full course
<b>Fourth</b>	Chemistry 231, Chemistry 425, Chemistry 426, Mathematics 205, Philosophy 414, Theology—Full course

## GENERAL SCIENCE CHEMISTRY AND BIOLOGY

### Science Pre-Medical Course

Year      Subject

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**First**    The same as in Honours Chemistry.

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<p><b>Second</b> Biology 202, Chemistry 211, Chemistry 212, Chemistry 221 and 222, Philosophy 201, French 204 or 206, Mathematics 202, Theology—Full course</p>	<p><b>Third</b> Biology 304, 305, Chemistry 323, Chemistry 324, English Full Course, Philosophy 313, Theology—Full course</p>
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**Fourth** Biology 406,  
Biology 408,  
Chemistry 425,  
Philosophy 414,  
Theology—Full course

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## GENERAL SCIENCE PHYSICS

Year      Subject

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**First**    The same as in Honours Chemistry.

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<p><b>Second</b> Chemistry 231, Philosophy 212, French 204 or 206, Mathematics 205, Mathematics 206, Physics 202A, Physics 303A, Theology—Full course</p>	<p><b>Third</b> Mathematics 307 and 308, Mechanics 201, English Full Course, Philosophy 313, Physics 202B, Physics 303B, Science 401, Theology—Full course.</p>
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**Fourth** Mathematics 309,  
Mathematics 417,  
Mechanics 301,  
Philosophy 414,  
Physics 408,  
Theology—Full course.

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## ENGINEERING

The first year is common to all branches in both the Certificate and B.Sc. courses.

**First Year** Algebra (Maths. 103),  
Anal. Geom. (Maths. 102b),  
Chemistry 101 and 102,  
Concepts of Engineering,  
Engineering Prob. 101 or 102,  
English 101 and 102,  
French 103 or 105,  
Mech. Drawing 101,  
Physics 101,  
Public Speaking,  
Theology 101,  
Trigonometry (Maths. 102a).

### Second Year

#### B.Sc. Course

Common to all branches  
Chemistry 231  
Descriptive Geometry 201  
Engineering Problems 201 and 202  
Mathematics 205  
Mathematics 206  
Mechanics 201  
Philosophy 212  
Physics 202A  
Physics 303A  
Theology—Full course

#### Certificate Course

Common to all branches,  
Chemistry 231,  
Descriptive Geometry 201,  
Engineering Problems 201 and 202,  
Materials of Engineering 201,  
Mathematics 205,  
Mathematics 206,  
Mathematics 307,  
Mechanics 201,  
Mechanical Drawing 201  
Philosophy 201,  
Physics 202A,  
Physics 303A,  
Surveying 201,  
Theology—Full course.

## Chemical Engineering

#### B.Sc. Course Third Year

Chemistry 211  
Chemistry 212  
French 204 or 206  
Materials of Engineering 201  
Mathematics 307  
Mechanics 302  
Mechanical Drawing 201  
Philosophy 313  
Physics 202B  
Physics 303B  
Surveying 201  
Theology—Full course

#### B.Sc. Course Fourth Year

Chemistry 221 and 222  
Chemistry 313  
Engineering Problems 302  
Engineering Reports,  
English—Full Course  
Mathematics 308  
Mechanics 401  
Philosophy 414  
Physical Metallurgy  
Science 401  
Summer Essay  
Theology—Full course

#### Certificate Course Third Year

Chemistry 211,  
Chemistry 212,  
Chemistry 221 and 222,  
Engineering Problems 302,  
Engineering Reports  
Mathematics 308,  
Mechanics 301,  
Physical Metallurgy,  
Physics 202B,  
Physics 303B,  
Science 401,  
Summer Essay,  
Theology—Full course.

## MECHANICAL ENGINEERING

#### B.Sc. Course Third Year

French 204 or 206  
Geology 101  
Materials of Engineering 201  
Mathematics 307  
Mechanics 302  
Mechanical Drawing 201  
Philosophy 313  
Physics 202B  
Physics 303B  
Surveying 201  
Theology—Full course

#### B.Sc. Course Fourth Year

Engineering Problems 301  
Engineering Reports  
English—Full course  
Mathematics 308  
Mathematics 309  
Mechanical Drawing 302  
Mechanics 401  
Mechanics of Machines 301  
Philosophy 414  
Physical Metallurgy  
Strength of Materials  
Strength of Materials Lab.  
Summer Essay  
\*\*Summer School  
\*Surveying 352 (Field Work)  
Theology—Full course

#### Certificate Course Third Year

Engineering Problems 301  
Engineering Reports  
Mathematics 308  
Mathematics 309  
Mechanical Drawing 302  
Mechanics 301  
Mechanics of Machines 301  
Physics 202B  
Physics 303B  
Physical Metallurgy  
Strength of Materials  
Strength of Materials Lab.  
Summer Essay  
\*\*Summer School  
\*Surveying 352 (Field Work)  
Theology—Full course

\*Taken at the end of Second Year by Certificate students and at the end of Third Year by B.Sc. students.

\*\*A four-week course in machine shop work in September following the close of the year's work for those who are going to continue in Engineering.

## CIVIL ENGINEERING

#### B.Sc. Course Third Year

French 204 or 206  
Geology 101  
Materials of Engineering 201  
Mathematics 307  
Mechanics 302  
Mechanical Drawing 201  
Philosophy 313  
Physics 202B  
Physics 303B  
Surveying 201  
Theology—Full course

#### B.Sc. Course Fourth Year

Engineering Reports  
English—Full course  
Geology 301 and 302  
Mathematics 308  
Mechanics 401  
Mechanics of Machines 301  
Mechanical Drawing 301  
Philosophy 414  
Physical Metallurgy  
Summer Essay  
Surveying 301 and 302  
\*Surveying 352 (Field Work)  
\*\*Surveying 377 (Field Work)  
Theology—Full course

#### Certificate Course Third Year

Engineering Reports  
Geology 101  
Mathematics 308  
Mechanics 301  
Mechanics of Machines 301  
Mechanical Drawing 301  
Physics 202B  
Physics 303B  
Physical Metallurgy  
Summer Essay  
Surveying 301 and 302  
\*Surveying 352 (Field Work)  
\*\*Surveying 377 (Field Work)  
Theology—Full course

\*Taken at the end of Second Year by Certificate students and at the end of Third Year by B.Sc. students.

\*\*Taken at the end of Third Year by certificate students and at the end of Fourth Year by B.Sc. students if they wish to continue in Engineering.

## ENGINEERING PHYSICS

### B.Sc. Course Third Year

Materials of Engineering 201  
Mathematics 208  
Mathematics 307  
Mathematics 309  
Mechanics 302  
Mechanical Drawing 201  
Philosophy 313  
Physics 202B  
Physics 303B  
Surveying 201  
Theology—Full course

### B.Sc. Course Fourth Year

Engineering Practice  
Engineering Reports  
English—Full course  
Mathematics 305  
Mathematics 311  
Mechanics 401  
Philosophy 414  
Physics 306  
Physics 313  
Physics 410  
Physics 416  
Summer Essay  
\*Surveying 352 (Field Work)  
Theology—Full course

### Certificate Course Third Year

Engineering Practice  
Engineering Reports  
Mathematics 305  
Mathematics 309  
Mathematics 311  
Mechanics 301  
Physics 202B  
Physics 303B  
Physics 306  
Physics 313  
Physics 410  
Physics 416  
Summer Essay

\*Surveying 352 (Field Work)  
Theology—Full course

\*Taken at the end of Second Year  
by Certificate students and at the  
end of Third Year by B.Sc.  
students.

## MINING ENGINEERING

### B.Sc. Course Third Year

Chemistry 211  
Chemistry 212  
French 204 or 206  
Geology 101  
Materials of Engineering 201  
Mathematics 307  
Mechanics 302  
Mechanical Drawing 201  
Philosophy 313  
Physics 202B  
Physics 303B  
Surveying 201  
Theology—Full course

### B.Sc. Course Fourth Year

Engineering Reports  
English—Full course  
Geology 201  
Geology 301  
Geology 302 (or option)  
Geology 403  
Mathematics 308  
Mechanics 401  
Philosophy 414  
Summer Essay  
Surveying 301  
\*Surveying 352 (Field Work)  
\*\*Surveying and Geophysical  
Field Work  
Theology—Full course

### Certificate Course Third Year

Engineering Reports  
Chemistry 211  
Chemistry 212  
Geology 101  
Geology 201  
Geology 403  
Mathematics 308  
Mechanics 301  
Physics 202B  
Physics 303B  
Summer Essay  
\*Surveying 352 (Field Work)  
Surveying 301  
\*\*Surveying and Geophysical  
Field Work  
Theology—Full course

\*Taken at the end of Second Year  
by Certificate students and at the  
end of Third Year by B.Sc. students.

\*\*Taken at the end of Third Year  
by Certificate students and at the  
end of Fourth Year by B.Sc.  
students if they wish to continue  
in Engineering.

## ELECTRICAL ENGINEERING

### B.Sc. Course Third Year

French 204 or 206  
Geology 101  
Materials of Engineering 201  
Mathematics 307  
Mechanics 302  
Mechanical Drawing 201  
Philosophy 313  
Physics 202B  
Physics 303B  
Surveying 201  
Theology—Full course

### B.Sc. Course Fourth Year

Engineering Reports  
English—Full course  
Mathematics 308  
Mathematics 309  
Mechanics 401  
Mechanical Engineering  
Mechanical Engineering Lab.  
Philosophy 414  
Physics 306  
Physics 410  
Summer Essay  
\*Surveying 352 (Field Work)  
Theology—Full course

\*Taken at end of Second Year by Certificate students and at the end of  
Third Year by B.Sc. students.

### Certificate Course Third Year

Engineering Reports  
Geology 101  
Mathematics 308  
Mathematics 309  
Mechanics 301  
Mechanical Engineering  
Mechanical Engineering Lab.  
Physics 202B  
Physics 303B  
Physics 306  
Physics 410  
Summer Essay  
\*Surveying 352 (Field Work)  
Theology—Full course



## OUTLINE OF BACHELOR OF COMMERCE COURSES

### First Year

Accounting 101,  
Economics 102,  
English 101, 102,  
French 103 or 105,  
Mathematics 101,  
Theology 101.

### Second Year

Accounting 202,  
Commerce 201,  
Economics 204,  
French 204 or 206,  
Mathematics 202, 203,  
Philosophy 212,  
Theology—Full course.

### Accounting Major

### Third Year

Accounting 303, 304,  
Auditing 305,  
Economics 305,  
English One Full Course,  
Philosophy 313,  
Theology—Full course.

### Fourth Year

Accounting 405,  
Auditing 406,  
Commerce 401, 402,  
Philosophy 414,  
Theology—Full course.  
One Economic or Political  
Science Elective.

### Economics Major

### Third Year

Economics 305,  
English One Full Course,  
Philosophy 313,  
Theology—Full course,  
One Economic Elective,  
One Political Science Elective.

### Fourth Year

Commerce 401, 402,  
Philosophy 414,  
Sociology 101,  
Theology—Full course,  
One Economic Elective,  
One Political Science Elective.

## DETAILS OF COURSES OF INSTRUCTION

The Faculty reserves the right to refuse to offer a course listed below for which there is not a sufficient number of applicants.

### ACCOUNTING

**Accounting 101**.....Full course.

**Introduction to Books of Account and Financial Statements:** theory of debit and credit; principles of double entry; books of original entry; recording of transactions through the general, sales, and purchase journals; special forms of cash book; controlling accounts; general ledger; accounts receivable and accounts payable ledgers; discounts, interest, prepaid and accrued charges; notes and bills of exchange; cheques, invoices, statements of account, bills of lading and other commercial papers; imprest system of petty cash; depreciation; provision for bad debts and discounts; inward and outward consignments; capital and revenue expenditures; bank reconciliations; voucher register; single entry; preparation of Trading and Profit and Loss Statements and Balance Sheets, single proprietorship; introduction to Work Sheet.

**LECTURES:** *Three hours a week for two terms.*

**TEXT-BOOK:** Finney and Miller, *Principles of Accounting*—Introductory (Prentice-Hall). (Can. Ed.)

**REFERENCE BOOKS:** Smalls, *Accounting Principles* (Ryerson).  
Tunick and Saxe, *Fundamental Accounting* (Prentice-Hall).

**Accounting 202**.....Full course.

**Operating Statements and Balance Sheets** with enlargement of Work Sheet Practice introduced in First Year.

**Partnerships:** formation, the partnership agreement; classes of partners and of partnerships; rights, duties, and powers of partners; distribution of profits; admission and withdrawal of partners; partnership dissolution; sale of a partnership to a Corporation; default of a partner, goodwill.

**Corporations—Legal Aspects:** formation and control; shareholders, directors; meetings; public and private companies; capital stock; limited liability; statutory books; auditors; dissolution. Accounting for Corporation taking over sole proprietor or partnership. Exchange of shares in Corporation for Assets in business selling out.

**Manufacturing Accounts and Statements:** factory departments; elements of cost; materials and supplies; work in process and finished goods accounts; periodic and perpetual inventories.

**Departmental Accounts:** distribution of charges to departments; comparison of department operations.

**Depreciation:** Causes of and accounting for depreciation.

**Reserves and reserve funds.**

**Analysis and Interpretation of Financial Statements:** Principles of valuation of current and fixed assets and liabilities; comparative balance sheets, ratios re working capital, share valuation, etc.

**Single Entry and conversion to double entry.**

**Bonds and Debentures:** Security payment of interest and principal; trust deed; issue and redemption; accounting for bond issue, interest and amortization.

**LECTURES:** *Three hours a week for two terms.*

**TEXT-BOOKS:** Smalls, *Accounting Principles* (Ryerson).

Finney and Miller, *Principles of Accounting*—Intermediate (Prentice-Hall). (Can. Ed.)

**Accounting 303.**.....Full course.

**Analysis of Balance Sheet:** Analysis and interpretation of financial statements; source and application of funds; equity of shares; sundry analyses; comparative ratios.

**Branch Accounts:** Merchandise charged at cost, intermediate or selling prices; foreign branches; conversion of accounts in foreign currency.

**Investigations:** Nature and classes of business investigations; methods of approach to an investigation; investigations not involving fraud or loss—prospectus certificate, proposed merger, prospective investor or purchaser, reorganization of capital structure. Investigation involving loss-fraud, fire loss, burglary costs, etc.

**Dominion and Provincial Companies' Act:** relative to preparation of financial statements and accounting procedures.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOKS: Finney and Miller, *Principles of Accounting*—Intermediate (Prentice-Hall). (Can. Ed.)  
*Dominion and Province of Quebec Companies' Act.*

REFERENCE BOOKS: Finney and Miller: *Principles of Accounting*—Advanced (Prentice-Hall).  
Karrenbrock and Simons: *Advanced Accounting* (South-western Publishing Company).  
Smails: *Auditing* (Ryerson).  
Smails: *Accounting Principles* (Ryerson).

**Accounting 304.**.....Half course.

**Holding Companies:** Consolidated statements; inter-company transactions and accounts—stock and bond holdings; investment accounts; minority interest.

**Reorganizations, Mergers and Amalgamations:** Rights and privileges of creditors and shareholders, plan of reconstruction.

LECTURES: *One hour a week for two terms.*

TEXT-BOOKS: Karrenbrock and Simons: *Advanced Accounting* (South-western Publishing Co.).  
Smails: *Accounting Principles* (Ryerson).

REFERENCE BOOKS: Paton: *Advanced Accounting* (MacMillan).  
Ferguson and Crocombe: *Holding Companies and Their Accounts.*

**Auditing 305.**.....Full course.

Classification and scope; internal check; rights, duties and responsibility of auditors; fraud and error in accounts; legal regulations—Dominion and Provincial; audit procedure and programmes; audit certificate and reports; audit working papers.

LECTURES: *Two hours a week for two terms.*

TEXT-BOOKS: Stettler: *Auditing Principles* (Prentice-Hall).  
Smails: *Auditing* (Ryerson).

*Dominion and Province of Quebec Companies' Act.*

**Accounting 405.**.....Full course.

**Cost Accounting:** Terms and cost formulae; elements of cost; cost records cost reports, estimating cost systems; standard costs; job costs; variances cost ratios.

**Budgetary Control:** Preparation and control of the budget, variable expense budgets.

**Executorships:** Charge and discharge statements; capital and income; division of an estate; succession duties.

**Bankruptcy and Liquidation Accounts:** Receivers' accounts; priority of creditors; statement of affairs; deficiency account; realization and liquidation statement.

**Income Tax:** Individuals; proprietors; partners corporations; general considerations.

LECTURES: *Four hours a week for two terms.*

TEXT-BOOKS: Matz, Curry and Frank: *Cost Accounting* (Gage).  
Karrenbrock and Simons: *Advanced Accounting* (South-western Publishing Company).  
Gilmour: *Income Tax Handbook 1958-59.*

REFERENCE BOOKS: C. L. Van Sickle: *Cost Accounting* (Harper).

R. B. Kester: *Advanced Accounting.*

Anger: *Digest of Mercantile Law* (Cartwright & Sons).

Sherwood & Chase: *Principles of Cost Accounting.*

**Auditing 406.**.....Half course.

A continuation of Auditing 305 with emphasis on Auditing problems, including report writing.

LECTURES: *One hour a week for two terms.*

## BIOLOGY

**Biology 101. Fundamental Biology**.....Full course.

A series of lectures and demonstrations designed to acquaint the general student with those fundamental principles of life which are the basis for an understanding of the structure and function of the living body.

LECTURES: *Two hours a week for two terms.*

REFERENCE BOOKS: Best & Taylor: *The Human Body and its Functions* (Holt).

Kahn: *Man in Structure and Function* (Knopf).

Rogers, Hubbell, Byers: *Man and the Biological World* (McGraw-Hill).

Hardin, Biology: *Its Human Implications* (Freeman).

Scheinfeld: *The New You and Heredity* (Lippincott).

**Biology 202. Invertebrate Zoology**.....Full course.

a) **Theory.** The course begins with a study of scientific methodology and its application to the living sciences. The nature and characteristics of protoplasm are explained and these are correlated with a discussion of the cell as the unit of structure and function. These basic principles are then utilized in a detailed study of the phyla of the invertebrate animals.

LECTURES: *One hour per week for two terms.*

TEXT-BOOK: Storer & Usinger: *General Zoology* (McGraw-Hill).



**b) Laboratory.** A detailed study of representative animals of the invertebrate phyla. The first part offers intensive exercises in the use of the microscope and the interpretation of microscopic sections. The second half offers training in manual dexterity necessary for precise dissection.

LABORATORY: *Three hours per week for two terms.*

TEXT-BOOK: Storer & Usinger: *General Zoology* (McGraw-Hill).

**Biology 304.** Vertebrate Zoology (Theory).....Half course.

The course opens with a study of the characteristics and classification of the vertebrates. The basic structure of the vertebrate body is outlined. Following this, the important type vertebrates are studied in detail, particular stress being laid on embryological development, structure and function.

LECTURES: *Two hours per week for two terms.*

TEXT-BOOK: Storer & Usinger: *General Zoology* (McGraw-Hill).

REFERENCE BOOKS: Arey: *Developmental Anatomy* (Saunders).

Best & Taylor: *The Human Body and its Functions* (Holt).

PREREQUISITE: Biology 202a.

**Biology 305.** Vertebrate Zoology (Laboratory).....Half course.

The course comprises a detailed study of the structure of amphioxus, dogfish, frog and rabbit. The course is so conducted that, by training in exact dissection, observation and the preparation of carefully executed drawings, the student may be able to trace the main features of organization from the lower to the higher vertebrates.

LABORATORY: *Six hours per week for two terms.*

TEXT-BOOKS: Storer & Usinger: *General Zoology* (McGraw-Hill).

Craigie-Bensley's: *Practical Anatomy of the Rabbit* (Univ. of Toronto Press).

PREREQUISITE: Biology 202b.

**Biology 406.** Histology.....Half course.

**a) Theory.** An introductory study of the cell, cell division and the general tissues. The course is designed to explain in detail the structure and function of epithelial, connective, contractile and nervous tissues and to introduce the various combinations of these in the special tissues of the adult body.

LECTURES: *Two hours per week for one term.*

REFERENCE BOOKS: Stiles: *Handbook of Histology* (McGraw-Hill).

Ham: *Histology* (Lippincott).

Maximow & Bloom: *Textbook of Histology* (Saunders).

**b) Laboratory.** A series of exercises designed to introduce the student to the fundamentals of cytological and histological technique, and to illustrate, by means of prepared slides, mitosis, meiosis, as well as the microscopic characteristics of the basic types of histological tissues.

LABORATORY: *Three hours per week for one term.*

**Biology 408.** Genetics.....Half course.

A series of lectures and demonstrations designed to explain the principles of heredity and variations.

LECTURES: *Two hours per week for one term.*

REFERENCE BOOKS: Sinnott, Dunn, Dobzhansky: *Principles of Genetics* (McGraw-Hill).

Dodson: *Genetics* (Saunders).

Scheinfeld: *The New You and Heredity* (Lippincott).

## CHEMISTRY

**Chemistry 101.** General Chemistry.....Full course.

Foundation in the principles of Chemistry with emphasis on the kinetic and atomic theories, the structural basis of matter, the Periodic Table and elementary solution theory. The principles are applied in describing the more common inorganic substances and reactions. Extensive practice is given in chemical nomenclature, equation writing, and numerical problems.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOK: Hutchison: *The Elements and their Reactions* (Saunders 1959).

SCHAUM: *Theory and Problems for Students of College Chemistry.*

**Chemistry 102.** General Chemistry Laboratory.....Half course.

Taken in conjunction with Chemistry 101.

TEXT-BOOK: King: *Semimicro Experiments in General Chemistry* (Prentice Hall).

**Chemistry 211.** Semi-Micro Inorganic Qualitative

Analysis.....Full course.

Nature of solutions, electrolytes, law chemical equilibrium, ionization constants, solubility products, common ion effect, formation and dissolution of precipitates, equilibrium law applied to hydrolysis, amphoterism, complex ions and complex compounds.

PREREQUISITE: *Chemistry 101.*

LECTURES: *Two hours per week for one term.*

LABORATORY: *Six hours per week for one term.*

TEXT-BOOK: Sorum: *Introduction to Semimicro Qualitative Chemical Analysis* (Prentice-Hall).

**Chemistry 212.** Quantative Inorganic Analysis

(Elementary).....Full course.

Theoretical aspects of precipitations in gravimetric and volumetric analysis, theory of indicators, acid-base titration, oxidation-reduction methods of analysis. Determination of ores by volumetric methods. Theory of precipitation and complex formation analysis.

LECTURES: *Two hours per week for one term.*

LABORATORY: *Six hours per week for one term.*

TEXT-BOOK: Kolthoff and Sandell: *Quantitative Inorganic Analysis* (Macmillan).

**Chemistry 221.** Organic Chemistry Theory.....Full course.

Introductory course in nomenclature, type reactions and synthesis of aliphatic, alicyclic and aromatic hydrocarbons and their derivatives. Theoretical aspects including resonance, orbital theory and simpler reaction mechanisms are introduced



PREREQUISITE: *Chemistry 101.*

LECTURES: *Three hours per week for two terms.*

TEXT-BOOK: English and Cassidy: *Principles of Organic Chemistry* (McGraw-Hill).

REFERENCE BOOK: Noller: *Chemistry of Organic Compounds* (Saunders).

**Chemistry 222.** Organic Chemistry Laboratory.....Half course.

A systematic preparation of simpler organic compounds; the theory of fundamental techniques such as steam distillation, filtration, the determination of physical constants.

To be taken in conjunction with Chemistry 221.

PREREQUISITE: *Chemistry 102.*

LABORATORY: *3 hours per week for two terms.*

TEXT-BOOK: Cason and Rapoport: *Laboratory Text in Organic Chemistry.*

**Chemistry 230**.....Half course.

A study of the properties of gases, liquids and solutions; chemical equilibrium; methods for the determination of hydrogen-ion concentration.

LECTURES: *One hour a week for two terms.*

REFERENCE BOOKS: Amsden: *Physical Chemistry for pre-Medical Students, 1950* (McGraw-Hill).

**Chemistry 231.** Introductory Physical Chemistry.....Full course.

The principles of physical chemistry, based on elementary kinetic theory and thermodynamics. Includes the following topics: the gas state, first and second laws of Thermodynamics, liquid and solid states, solutions, homogeneous and heterogeneous equilibria, reaction kinetics, electrochemical phenomena. Problems form an integral part of the course.

LECTURES: *Three hours per week for two terms.*

**Chemistry 313.** Quantative Inorganic Analysis (Advanced) Full course.

A study of the theoretical principles underlying analytical methods. Electro-deposition, potentiometry, amperometry, absorption of radiation, gas analysis, ion exchange separations, polarography.

PREREQUISITE: *Chemistry 211, 213.*

LECTURES: *One hour per week for one term.*

LABORATORY: *Six hours per week for one term.*

TEXT-BOOKS: Kolthoff and Laitinen: *pH and Electro Titration* (Wiley).

Ewing: *Instrumental Methods of Chemical Analysis* (McGraw-Hill).

Sandell: *Colorimetric Determination of Traces of Metals* (Interscience).

Reilley and Sawyer: *Experiments for Instrumental Methods* (McGraw-Hill).

**Chemistry 323.** Organic Chemistry Theory.....Full course.

Critical review and extension of aliphatic and aromatic reactions; more intensive study of reaction mechanisms, stereoisomerism, carbohydrates, problems of synthesis and identification.

PREREQUISITE: *Chemistry 221.*

LECTURES: *Two hours per week for two terms.*

TEXT-BOOK: Cram and Hammond: *Organic Chemistry.*

REFERENCE BOOK: Cason: *Essential Principles of Organic Chemistry.*

**Chemistry 324.** Identification of Organic Compounds.....Full course.

Theory and practice of organic qualitative analysis: Most of the laboratory time is given to the identification of unknown compounds and the separation and identification of a simple mixture.

PREREQUISITE: *Chemistry 222.*

LECTURES: *One hour per week for two terms.*

LABORATORY: *Three hours per week for the first term; six hours per week for the second term.*

TEXT-BOOK: McElwain: *The Characterization of Organic Compounds* (Macmillan).

**Chemistry 332.** Advanced Physical Chemistry.....Full course.

Selected topics: includes—structure of solid state, surface phenomena, the colloidal state, phase rule.

PREREQUISITE: *Chemistry 231.*

LECTURES: *Two hours per week for two terms.*

**Chemistry 333.** Physical Chemistry Laboratory.....Half course.

To be taken in conjunction with Chemistry 332.

LABORATORY: *Four hours per week (one afternoon) for one term.*

TEXT-BOOK: Daniels, et alii. *Experimental Physical Chemistry* (5th ed.) (McGraw-Hill).

**Chemistry 334.** Thermodynamics.....Full course.

A thorough study of classical thermodynamics. Considerable emphasis placed on physical as well as chemical application.

PREREQUISITE: *Chemistry 231; Math. 205.*

LECTURES: *Two hours per week for two terms.*

**Chemistry 425.** Organic Chemistry Theory.....Full course.

Selected topics of Organic Chemistry including condensation reactions, heterocyclic systems particularly pyridine in detail, the terpenes particularly pinene and camphor, polymers, compounds of biological significance. This course aims at intensive study rather than general survey.

PREREQUISITE: *Chemistry 205 and 309.*

LECTURES: *Two hours per week for two terms.*

REFERENCE BOOKS: Finar: *Organic Chemistry*, 2 vols. (Longmans).

Cram and Hammond: *Organic Chemistry* (McGraw-Hill).

Cason: *Essential Principles*, chap. 33, 34.

Gilman: *Organic Chemistry*, 4 vols. (Wiley).

**Chemistry 426.** Organic Preparations Laboratory.....Full course.

The student performs a varying series of more difficult preparations and is expected to become proficient in such techniques as vacuum distillation, catalytic hydrogenation and the manipulation of larger scale bench equipment.

A sound knowledge of theory is required.

PREREQUISITE: *Chemistry 222 and 324.*

LABORATORY: *Six hours per week for two terms.*

TEXT-BOOK: Vogel: *A text-book of Practical Chemistry* (Longmans).

REFERENCE BOOKS: *Organic Synthesis* (Wiley).  
*Organic Reactions.*



**Chemistry 435.** Advanced Physical Chemistry  
Laboratory..... Full course.

A continuation of Chemistry 333, but fewer and more demanding experiments.

PREREQUISITE: *Chemistry 333.*

LABORATORY: *Four hours per week for two terms.*

**Chemistry 436.** Electrochemistry..... Half course.

Electrolytic conduction and electrolysis: Faraday's laws; specific and equivalent conductance and measurement of conductance; mobility and transport number; theory of strong electrolytes; thermodynamics of cells; electrode potentials; concentration cells; liquid junction potentials; over-voltage and polarization phenomena.

LECTURES: *Two hours per week for one term.*

TEXT-BOOK: Glasstone: *Introduction to Electrochemistry* (Van Nostrand).

**Chemistry 437.** Kinetic Theory and Chemical Kinetics..... Full course.

The classical atomic theory. Kinetic theory of gases; the statistical mechanical approach to the Maxwell-Boltzman Distribution, Collision phenomena. Reaction Kinetics. The rate laws; Classical collision theory; Activated State Theory; Reaction Mechanisms; Free Radical chemistry; Chain processes.

PREREQUISITES: *Chemistry 322 and 334.*

LECTURES: *Two hours per week for two terms.*

**Chemistry 438.** Quantum Chemistry..... Half course.

The transition from classical to modern physics. Michelson-Morley experiment—Special theory of relativity, Planck's Black Body Radiation, Photoelectric effect, Radioactivity and the fundamental particles, The Rutherford-Bohr-atom, Schrodinger Wave Equation Atomic Spectra, Molecular structure and bonding.

LECTURES: *Two lectures a week for one term.*

### CLASSICS IN TRANSLATION

**Classics in Translation 101**..... Full course.

The purpose of this course is to introduce students to the literature and history of Greece and Rome. The emphasis is on literature and such other aspects of cultural and political development as are necessary for an understanding of literature and significant for us to-day. Readings, which are in English, are chosen to illustrate the most typical literary forms of the periods studied, as well as to provide an introduction to some of the most important classical authors.

READINGS: Homer: *The Odyssey.*

Herodotus: *The Histories* (selections).

Sophocles: *Antigone.*

Plato: *Apology of Socrates*; *Crito.*

Cicero: *Selections.*

Virgil: *The Aeneid.*

Plutarch: *Selected Lines.*

Suetinius: *The Twelve Caesars.*

2 **Classics in Translation 201**..... Full course.

In this course, a more intensive study will be made of two important aspects of Classical thought and literature. In the first term, Greek tragedy will be studied and, in the second term, those works of Latin prose which best illustrate the idea of the Roman Empire—its origins, its growth and its rulers.

READINGS: Aeschylus: *The Oresteia.*

Sophocles: *Oedipus the King*; *Oedipus at Coloneus*; *Electra.*

Euripides: *Alcestis*; *Iphigenia in Tauris*; *Hippolytus.*

Sophocles and Euripides: *Two Satyr Plays.*

Livy: *The Early History of Rome* (selections).

Caesar: *The Conquest of Gaul.*

Tacitus: *Imperial Rome* (selections).

Tacitus: *On Britain and Germany.*

Marcus Aurelius: *Meditations.*

### COMMERCE

**Commerce 201**..... Full course.

*Commercial Law:* Laws of contracts, sales, agency, partnership, company law and negotiable instruments.

LECTURES: *Three hours a week for two terms.*

**Commerce 401**..... Half course.

*Finance:* A familiarization and working understanding of statements and the financial analysis of them. Short term and long term planning, cash budgeting and financing are all discussed from real situations.

LECTURES: *Three hours a week for one term.*

**Commerce 402**..... Half course.

*Marketing:* A discussion of the needs and desires of the consumer and the methods in which the manufacturer and retailer may best fulfil them. Discussions of merchandising, branding, advertising, sales promotion, pricing and the management of the organization.

LECTURES: *Three hours a week for one term.*

**Commerce 403**..... Half course.

*Introduction to Business:* Principles and techniques underlying the successful organization, management and operation of business activities; the application of these principles to specific business activities and to the management of individual departments.

LECTURES: *Three hours a week for one term.*

### DESCRIPTIVE GEOMETRY

**Descriptive Geometry 201**..... Half course

Descriptive Geometry—Theory of Orthographic projection, planes and their traces, oblique planes solutions, dihedral angles and practical mining problems involving principles covered in the course.

LECTURES: *One hour lecture—Two hour Lab. per week for two terms.*

TEXT-BOOK: W. G. Smith: *Practical Descriptive Geometry.*

### ECONOMICS

**Economics 102.** Principles of Economics..... Full course.

Some fundamental principles of economics, and illustrations of their application to various topics.

LECTURES: *Three hours a week for two terms.*



**Economics 204.** Intermediate Economic Analysis.....Full course.

This course deals with some of the main problems in economic analysis, with primary emphasis on price theory and distribution theory.

LECTURES: *Three hours a week for two terms.*

**Economics 301.** Economic History.....Full course.

An analysis of the economic development of Western Europe, Canada, and the United States.

LECTURES: *Three hours a week for two terms.*

**Economics 305.** Money, Banking, and Income Theory.....Full course.

Money and banking; income and employment; price levels; interest rates; some aspects of international monetary economics.

LECTURES: *Three hours a week for two terms.*

**Economics 306.** Labour Problems and Institutions.....Full course.

History of the labour movement in Europe, Canada, and the United States; labour theory; labour problems; collective bargaining; industrial relations; the social teaching of the Church.

LECTURES: *Three hours a week for two terms.*

**Economics 307.** International Economics.....Full course.

This course will deal with a number of topics in the field of international trade.

LECTURES: *Three hours a week for two terms.*

**Economics 312.** Comparative Economic Systems.....Full course.

The evolution of economic systems is discussed and evaluated in terms of modern economic theory, and from the point of view of economic efficiency and development.

LECTURES: *Three hours a week for two terms.*

**Economics 408 (a).** Applied Statistics.....Half course.

Index numbers; time series analysis; correlation and regression; analysis of variance.

LECTURES: *Three hours a week in the first term.*

**Economics 408 (b).** Mathematical Economics.....Half course.

The aim of this course is to help students specialising in economics to understand the mathematical formulations used in economics.

LECTURES: *Three hours a week in the second term.*

**Economics 410.** History of Economic Thought.....Full course.

A critical review of economic thought since Plato and Aristotle.

LECTURES: *Three hours a week for two terms. Honours students only.*

**Economics 411.** Advanced Economic Analysis.....Full course.

This course will deal with selected topics from the general field of economic theory.

LECTURES: *Three hours a week for two terms. Honours students only.*

**Economics 413.** Business Fluctuations and Fiscal Policy....Full course.

The Kitchin, Juglar, and Kondratieff cycles; theories of business fluctuations; the influence of some strategic factors; an eclectic theory of the cycle; fiscal policy.

LECTURES: *Three hours a week for two terms.*

The Honours Economics programme consists of the following courses:  
Economics 102.

Economics 204.

Economics 301, 305, 408, 410, 411, 413.

One more course in Economics or Political Science.

## ENGINEERING PROBLEMS

**Engineering Problems 101**.....Half course.

This course is designed for First Year Engineering students who have a credit in Intermediate Trigonometry. It consists primarily of problems based on the logarithmic solutions of oblique triangles both in one plane and in more than one plane. It also includes general values, inverse functions, and properties of triangles and polygons.

LECTURES: *One hour a week for two terms.*

**Engineering Problems 102**.....Half course.

This is a second term course and is designed for those engineering students who have taken trigonometry in the first term. This course stresses logarithms and problems based on the solution of oblique triangles in one plane only.

LECTURES: *One hour a week for one term.*

**Engineering Problems 201**.....Half course.

The slide rule, its use and limitations. Problems primarily designed to afford practice in the use of the slide rule.

LECTURES: *One hour a week for one term.*

**Engineering Problems 202**.....Half course.

Graphical Statics.

LECTURES: *One hour a week for one term.*

**Engineering Problems 301**.....Half course.

A selection of exercises and problems requiring analysis and the application of accepted or derived methods of solution.

*One hour lecture and two hours problem period for two terms.*

**Engineering Problems 302**.....Full course.

Application of physical and chemical principles to some fundamental problems in Chemical Engineering.

LECTURES: *One hour a week for two terms.*

## ENGLISH

**English 101.** English Literature.....Full course.

From the beginnings to the 17th Century.

A course for first year Science and Commerce students.

LECTURES: *Three hours a week for two terms.*

TEXTS: Selected paperbacks.

**English 102.** Composition.....Half course.

A course for first year Science and Commerce students. The writing of technical reports and research papers.

LECTURES: *One hour a week for two terms.*

TEXT-BOOK: *Harbrace Guide.* (Not given in 61-62.)

**English 105.** Logic and Language.....Half course.

A course for first year Arts students designed to reveal the fundamentals of prose style and secure clarity of thought and expression. It includes the levels of English usage, the levels of meaning, feeling and thinking, the techniques of analysis and inquiry, and the syllogistic reasoning of formal logic.

LECTURES: *Two hours a week for two terms.*

TEXT-BOOKS: Beardsley: *Practical Logic.*

Sears: *Harbrace Guide.*



**English 106.** Introduction to Literature.....Half course.

A course for first year Arts students: reading and discussion of the following books:

Newman: *The Uses of Knowledge*....ed. Ward (from *The Idea*)  
Ruskin: *As Literary Critic*.....ed. Ball  
Dickens: *Hard Times*  
Mill: *Autobiography*  
Wordsworth: *The Prelude*.  
Woodham-Smith: *Florence Nightingale*.  
Cobbett: *Rural Rides* (selections).  
Wilde: *The Critic as Artist*.  
Wilde: *The Soul of Man under Socialism*.  
Wilde: *The Picture of Dorian Gray*.  
Eliot: *Adam Bede*.  
Shaw: *Saint Joan*.

*The Nineteenth Century* (Selections) ed. Goodwin.

LECTURES: *Two hours a week for two terms*.

**AUTHOR COURSES**

**English 411.** Chaucer.....Half course.

An elective course for Honours students with 443 (Middle English Language) as pre-requisite.

LECTURES: *Three hours a week for one term*. 61-62.

**English 312** (formerly 211a). Spenser.....Full course.

An obligatory course for second year Honours students.

LECTURES: *Three hours a week for two terms*. 61-62.

**English 313** (213). Shakespeare.....Full course.

An obligatory course for third year Honours students. The comedies, tragedies and historical plays of Shakespeare, with due attention given to his times, his development, and the body of Shakespearean criticism.

LECTURES: *Three hours a week for two terms*.

**English 314** (211b). Milton.....Full course.

An obligatory course for fourth year Honours students.

LECTURES: *Three hours a week for two terms*.

**English 315.** Dryden and Pope.....Quarter course.

An obligatory course for third year Honours students (along with 323).

LECTURES: *Two hours a week for one term*.

**English 416.** Swift and Johnson.....Full course.

An elective course for Honours students.

LECTURES: *Three hours a week for two terms*. 61-62.

**English 417.** Newman.....Half course.

An elective course offered to Honours students. It may satisfy English or Theology requirements.

LECTURES: *Two hours a week for two terms*. 61-62.

**PERIOD COURSES**

**English 321.** The Literature of Christendom.

An obligatory course for second year Honours students, to be done in conjunction with 334 (Medieval and Tudor Drama).

LECTURES: *Two hours a week for one term*.

**English 222.** Medieval and Renaissance Literature.....Full course.

A course for General Arts students.

LECTURES: *Three hours a week for two terms*.

**English 323.** Restoration and Early 18th Century Literature.

An obligatory course for third year Honours students, in conjunction with 315 (Dryden and Pope)—both formerly 313h.

LECTURES: *Two hours a week for one term*.

**English 224** (313g). Restoration and 18th Century Literature.....Full course.

A course for General Arts students.

LECTURES: *Three hours a week for two terms*.

**English 425** (314). 19th Century Poetry.....Half course.

An elective course for Honours students.

LECTURES: *Two hours a week for two terms*.

**English 326** (410). 19th Century Thought.....Full course.

An obligatory course for fourth year Honours students. A study of some of the spiritual struggles of the century as experienced by the great writers: Wordsworth, Coleridge, Carlyle, Mill, Newman, Arnold, Huxley, Ruskin and Butler.

LECTURES: *Three hours a week for two terms*. 61-62.

**English 227** (207). 19th Century Literature.....Full course.

A course for General Arts students, and third year Commerce and Science students.

LECTURES: *Three hours a week for two terms*.

TEXT-BOOKS: Woods, Watt & Anderson: *The Literature of England*, Vol. II.

Newman: *The Uses of Knowledge* (ed. from *The Idea by Ward*).

Mill: *On Liberty*.

**English 428.** Modern Literature.....Full course.

An elective course for Honours students.

LECTURES: *Three hours a week for two terms*. 61-62.

**English 229.** Modern Literature.....Full course.

An elective course for General Arts students.

LECTURES: *Three hours a week for two terms*.

## GENRE COURSES

- English 231** (416). The Epic..... Full course.  
A course for General Arts students.  
LECTURES: *Three hours a week for two terms.*
- English 232** (301). Drama in the Western World..... Full course.  
A course for General Arts students.  
LECTURES: *Three hours a week for two terms.*
- English 333.** Medieval and Tudor Drama.  
An obligatory course for second year Honours students, in conjunction with 321 (The Literature of Christendom).  
LECTURES: *Two hours a week for one term.*
- English 434.** The Novel..... Half course.  
An elective course for Honours students.  
LECTURES: *Two hours a week for two terms.*
- English 235** (303). Modern Fictional Forms..... Full course.  
A course for General Arts students.  
LECTURES: *Three hours a week for two terms.* 61-62.
- English 336** (415). Selected Poets ..... Full course.  
An obligatory course for second year Honours students.  
LECTURES: *Three hours a week for two terms.* 61-62.
- English 237** (304). The Literature of Ideas..... Full course.  
A course for General Arts students.  
LECTURES: *Three hours a week for two terms.*
- English 238** (405). Literary Genres..... Full course.  
A course for General Arts students.  
LECTURES: *Three hours a week for two terms.*

## LANGUAGE COURSES

- English 441.** The English Language.  
An elective course for Honours students.  
LECTURES: *Two hours a week for one term.*
- English 442.** Anglo-Saxon Language and Literature..... Half course.  
An elective course for Honours students.  
LECTURES: *Two hours a week for two terms.*
- English 443.** Middle English Language..... Half course.  
An elective course for Honours students, in conjunction with 411 (Chaucer).  
LECTURES: *Three hours a week for one term.* 61-62.
- English 444** (412). Advanced Prose Composition..... Half course.  
An elective course for Honours students; a theoretical and practical study of prose style to make the student familiar with and competent in the use of the main prose traditions. A reading of treatises on style from Aristotle and Longinus to the present time is required.  
LECTURES: *Two hours a week for two terms.*  
TEXT-BOOKS: (some) Aristotle: *Rhetoric.*  
Weaver: *The Ethics of Rhetoric.*  
Auerbach: *Mimesis.*  
Whately: *Elements of Rhetoric.*  
Donnelly: *Persuasive Speech.*  
Read: *English Prose Style.*  
Whitehall: *Structural Elements of English.*

## THEORY COURSES

- English 251** (201). Principles and Practice of Literature... Full course.  
A course for General Arts students designed to acquaint the student with the Nature of Literature, its various Genres, its levels, and basic critical positions and problems.  
LECTURES: *Three hours a week for two terms.*  
TEXT-BOOKS: (some) Aristotle: *Poetics.*  
Blair and Gerber: *Better Reading*, vol. 2.  
Daiches: *Critical Approaches to Literature.*
- English 352** (212). Criticism..... Full course.  
An obligatory course for third year Honours students. A study of the major theories of literature from Aristotle to the present. The course presumes wide reading in literature and some familiarity with the history of philosophy.  
LECTURES: *Three hours a week for two terms.* 61-62.  
TEXT-BOOKS: (some) Bates: *Criticism: The Major Texts.*  
Frye: *The Anatomy of Criticism.*  
Lonergan: *Insight.*

## NATION COURSES

- English 461.** Canadian Literature.  
An elective course for Honours students.  
LECTURES: *Two hours a week for one term.*
- English 462.** American Literature.  
An elective course for Honours students.  
LECTURES: *Two hours a week for one term.*
- Honours English**—Total (exclusive of first year) 24 hours.  
**Second year** (from Junior Matriculation)  
Total: 6 hours a week two terms.  
**Third Year.** Total 9 hours.  
**Fourth Year.** Total 9 hours.

## FRENCH

- French 101**..... Full course.  
General survey of French civilization and literature from the Middle Ages through the 16th and 17th centuries.  
LECTURES: *Three hours a week for two terms.*
- French 103**..... Full course.  
Study of excerpts from representative authors on French Civilization.  
LECTURES: *Two hours a week for two terms.*  
PREREQUISITE: *Four years Highschool French and a grade 11 pass mark.*  
TEXT-BOOKS: Sonet & Shortliffe: *Review of Standard French.*  
François Denoeu: *L'Héritage Français.*
- French 105**..... Full course.  
A first year College course for beginners.  
LECTURES: *Two hours a week for two terms.*  
TEXT-BOOK: Turgeon: *Cours Pratique de Français* (Appleton-Century).



**French 202**.....Full course.  
General survey of French Literature of the 19th and 20th centuries.  
LECTURES: *Three hours a week for two terms.*

**French 204**.....Full course.  
Representative readings of contemporary authors in the novel and the essay. Conversational French and review of French Grammar.  
LECTURES: *Two hours a week for two terms.*  
PREREQUISITE: *Pass-mark in French 103 or Senior Matriculation.*  
TEXT-BOOK: Sonet & Shortliffe: *Review of Standard French.*  
Texts to be announced.

**French 206**.....Full course.  
A second year College course following French 105.  
LECTURES: *Two hours a week for two terms.*  
TEXT-BOOK: Deuxième étape.

### GEOLOGY

Courses in Geology are normally offered to engineering students, but interested students in other fields may take one or more courses by special arrangement. Courses in which there is insufficient registration will not be given during the current year.

**Geology 101.** General Geology.....Full course.  
Elements of mineralogy, petrology, soil mechanics, structural geology, historical geology and geomorphology. Emphasis is laid on the relationship of geology to engineering practice. Mineral, rock and soil specimens, topographic and geologic maps, and air photos are studied in the laboratory. During October and November, several field trips are made to points of interest in and near Montreal.

LECTURES: *Two hours a week for two terms.*

LABORATORY: *Two hours a week for two terms.*

TEXT-BOOK: Trefethen: *Geology for Engineers*, 2nd ed. (Van Nostrad).

**Geology 201.** Mineralogy.....Full course.  
Crystallography, physical mineralogy, chemical mineralogy and the descriptive mineralogy of some 150 important rock-forming and economic minerals. Occurrence, association and uses of minerals. In the laboratory, crystal forms are studied and minerals are identified by the determination of their physical characteristics and by semi-qualitative chemical tests.

LECTURES: *Two hours a week for two terms.*

LABORATORY: *Three hours a week for two terms.*

TEXT-BOOK: Berry and Mason: *Mineralogy* (Freeman).

**Geology 301.** Geomorphology.....Half course.  
An advanced course in the study of landforms produced by the processes of erosion and deposition by water, wind, glaciation and earth movements. The interrelationship of geologic processes, materials, and structures, soil types, climatic conditions, etc., in the development of topographic forms is emphasised. Suites of maps and air photos plus one full day field trip are used to illustrate the lectures.

PREREQUISITE: *Geology 101.*

LECTURES: *Two hours a week for one term.*

LABORATORY: *Two hours a week for one term.*

TEXT-BOOK: Thornbury: *Principles of Geomorphology* (Wiley).

**Geology 302.** Engineering Geology.....Half course.  
The application of geology to engineering problems. Studies of engineering geology case histories in ground water, foundations, excavations, aggregates, etc., with emphasis on Canadian examples. Reading assignments, colloquium and field trips are used to provide illustrative material.

PREREQUISITE: *Geology 301.*

LECTURES: *Two hours a week for one term.*

COLLOQUIUM: *Two hours a week for one term.*

REFERENCES: *Various texts, government and technical society publications.*

**Geology 303.** Field Geology.....Half course.  
Surface and underground field mapping methods. Preparation of geological maps, sections and reports from field notes, diagrams, air photos, etc.

PREREQUISITE: *Geology 101, Surveying 201, 352.*

FIELD SCHOOL: *Two weeks in May at McGill Field Geology School.*

REFERENCES: Lahee: *Field Geology*, 5th ed. (McGraw-Hill).

Mckinstry: *Mining Geology* (Prentice Hall).

**Geology 401.** Optical Crystallography.....Half course.  
The optical properties of non-opaque crystalline substances under the polarizing microscope. In the laboratory, mineral powders are identified by their optical characteristics and by the determination of their refractive indices.

PREREQUISITE: *Geology 201.*

LECTURES: *Two hours a week for one term.*

LABORATORY: *Three hours a week for one term.*

TEXT-BOOK: Wahlstrom: *Optical Crystallography* (Wiley).

REFERENCES: Larsen and Berman: *Microscopic Determination of Non-opaque Minerals*, (Bull. 484, U.S. Geol. Survey);  
Winchell: *Elements of Optical Mineralogy*, Part I (Wiley).

**Geology 402.** Geology and Mineral Resources of Canada... Half course.  
The geology and mineral resources of Canada are described in relationship to the major geomorphic subdivisions. Reading assignments and colloquium are used to provide illustrative material.

LECTURES: *Two hours a week for one term.*

COLLOQUIUM: *One to two hours a week for one term.*

TEXT-BOOK: *Geology and Economic Minerals of Canada*, 4th ed. (Econ. Geol. Series No. 1, Geological Survey of Canada).

REFERENCES: *Various texts, government and technical society publications.*

**Geology 403.** Applied Geophysics.....Half course.  
An introduction to geophysical methods of prospecting and of investigating subsurface structures. The theories, uses and limitations of various magnetic, electrical, gravitational and seismic methods are explained and compared. The practical operation of the instruments is reviewed and actual field results are obtained and analysed.

PREREQUISITE: *Geology 101 and Physics 303A, 303B.*

LECTURES: *Two hours a week for one term.*

TEXT-BOOKS: Eve and Keys: *Applied Geophysics* (Cambridge Univer. Press).

Dobrin: *Introduction to Geophysical Prospecting* (McGraw-Hill).

REFERENCES: Heiland: *Geophysical Exploration* (Prentice-Hall).

Jakosky: *Exploration Geophysics* (Trija Publishing Company).

*Methods and Case Histories in Mining Geophysics*, 1957 Congress Volume, (Canadian Institute of Mining and Metallurgy).



## GERMAN

**German 101.** Introductory Course for Science Students....Half course.

LECTURES: *Two hours a week for two terms.*

TEXT-BOOKS: Curts: *Basic German.*  
Fiedler and Sandback: *First German Course for Science Students.*

## GREEK

**Greek 101.** Selected reading in Greek..... Full course.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOKS: C. E. Freeman, W. D. Lowe: *A Greek Reader for Schools* (Clarendon Press).

J. A. Nairn, G. A. Nairn: *Greek through Reading* (Ginn & Company, London).

**Greek 202.** Homer, Plato, New Testament..... Full course.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOKS: Schröder: *A Reading Course in Homeric Greek, Second Year Book* (Edwards Bros. Inc., Ann Arbor).  
Williamson: *Plato's Apologia* (MacMillan).  
*Greek New Testament.*

## HISTORY

**History 101.** History of Medieval Europe.

**History 102.** History of Modern Europe.

LECTURES: *Two hours a week for two terms.*

**History 201.** History of England.

**History 202.** History of Canada.

**History 203.** History of the United States of America.

**History 311.** Medieval Institutions.

**History 312.** Renaissance and Reformation.

**History 313.** Medieval England.

**History 314.** British Empire and Commonwealth.

**History 401.** Select Problems in Colonial History.

**History 411.** Select Problems in 19th Century Canadian History.

**History 412.** Select Problems in Quebec History.

**History 413.** 18th and 19th Century Europe.

**History 414.** Tudor and Stuart England.

**History 415.** British Political Parties.

LECTURES: *Three hours a week for two terms.*

The Honours History programme will require the following courses:

**History 101, 102.**

**History 201, 202, 203,**

and six courses selected from **History 311, 312, 313, 314, 411, 412, 413.**

## LATIN

**Latin 101.**.....Full course.

Livy's account of the Second Punic War is studied in selections from Book XXI in the first term. In the second term the Odes of Horace and Cicero's oration in defence of Archias are the prescribed texts. In both terms constant attention is given to Latin Prose Composition.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOKS: Melhuish: *Livy-Book XXI* (Macmillan).

Nall: *Cicero-Pro Archia* (Macmillan).

Gould-Whiteley: *Horace-Odes-Book One* (Macmillan).

Robertson: *Latin Prose Composition* (Macmillan).

**Latin 103.**.....Full course.

This course aims at giving students a sound working knowledge of the Latin language, so that they can write, speak and read it with reasonable ease and can tackle the original texts with some degree of confidence. The course is primarily for those who have not the necessary background for Latin 101.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOKS: Peckett & Mundy: *Principia.*

Peckett & Mundy: *Pseudolus Noster.*

**Latin 202.**.....Full course.

In the first term Cicero's speech for the Manilian Law is studied not only for translation but also as a specimen of ancient classical rhetoric and for an insight into the political situation of the last years of the Roman republic. In the second term selected satires of Horace throw vivid light on the cultural background of Augustan Rome and Tacitus, the historian of later imperial Rome makes us see our own ancestors as they appeared to the civilized world of his time. Latin Prose Composition is continued in both terms.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOKS: Wilkins: *Cicero-Pro Lege Manilia* (Macmillan).

Palmer: *Horace-Satires* (Macmillan).

Sleeman: *Tacitus-Agricola and Germania* (Macmillan).

Robertson: *Latin Prose Composition* (Macmillan).

## MATERIALS OF ENGINEERING

**Materials of Engineering 201.**.....Half course.

- (1) Cost and availability of metals. Structure and engineering behaviour of metals and alloys. Solidification theory and casting practice. Fabrication methods. Detailed discussion of irons, steels, and non-ferrous alloys. Corrosion of metals.

LECTURES: *One hour for one term.*

- (2) Lubricants; Wood and wood products, Cementing materials; concrete; soil; clay products; refractories and glass; organic plastics; rubber; fuels and explosives.

LECTURES: *One hour for one term.*

TEXT-BOOK: Bacha, Schwalje and Del Mastro: *Elements of engineering materials* (Harper).

## MATHEMATICS

**Mathematics 101.**.....Full course.

- (a) *Algebra and Graphs.*

Linear and quadratic functions and their graphs. Ratio and proportion. The progressions. Permutations and combinations. The binomial theorem. Mathematics of investment.



- (b) *Plane Trigonometry and Analytic Geometry.*  
The trigonometric functions and solution of right-angled triangles. Measurement of angles, identical relationships among the functions, trigonometric equations. Graphs of the trigonometric functions. Solution of triangles. Logarithms. Discussion of straight line and circle.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOK: Frank Ayres, Jr.: *First Year College Mathematics* (Schaum).

**Mathematics 102.**.....Full course.

- (a) *Plane Trigonometry.*

The trigonometric functions and solution of right-angled triangles. Measurement of angles, identical relations among the functions and trigonometric equations. Functions of compound angles, transformations of products and sums. Logarithms. Solution of triangles. Graphs of the trigonometric functions, general solutions of trigonometric equations and inverse functions.

LECTURES: *Three hours a week for one term.*

TEXT-BOOK: Hall and Knight: *Elementary Trigonometry.*

- (b) *Analytic Geometry.*

An elementary study of the straight line and circle, with an introduction to conic sections.

LECTURES: *Two hours a week for two terms.*

TEXT-BOOK: Smith, Salkover and Justice: *Analytic Geometry.*

**Mathematics 103.** Algebra.....Full course.

Linear and quadratic functions. Polynomials and algebraic equations. Rational functions, ratio and proportion and systems of equations. Series of numbers, the progressions. Permutations and combinations. Mathematical induction. The binomial theorem and approximations. Mathematics of investment.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOK: Rosenbach and Whitman: *College Algebra* (Ginn).

**Mathematics 202.** Elementary Statistics.....Half course.

*Frequency distributions*—Descriptive measures; Probability; Sampling; Estimation of confidence intervals; Testing hypothesis; Tests for randomness; Linear relations; Correlations.

LECTURES: *Three hours per week for one term.*

TEXT-BOOK: *Modern Elementary Statistics* by John E. Freund (Prentice-Hall).

**Mathematics 203.** Theory of Interest.....Half course.

Simple and compound interest; discount; annuities certain; sinking funds; bonds; elementary interpolation.

LECTURES: *Three hours a week for one term.*

TEXT-BOOK: Simpson, Pirenian and Crenshaw: *Mathematics of Finance* (Prentice-Hall).

**Mathematics 205.** Calculus.....Full course.

A first course aiming to cover, as completely as possible the ordinary techniques and applications of calculus. It includes the following topics:—Limits of functions. Differentiation and integration of polynomials with applications. The Cauchy integral. Differentiation of algebraic and elementary transcendental functions with applications to kinematics,

differential geometry and the solution of equations. Methods of integration and uses of the integral in the calculation of geometric and mechanical quantities. Approximate integration. Theorems concerning integration and the integrals. Power series, Taylor's series, the exponential, circular and hyperbolic functions. Partial differentiation, line integrals, multiple integration. Introductory differential equations.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOK: *Calculus* by R. L. Jeffrey (Univ. of Toronto Press).

REFERENCE BOOKS: Courant: *Differential and Integral Calculus.*

Goursat-Hedrick: *Mathematical Analysis*, Vol. I.  
Hardy: *Integration of Functions of a Single Variable.*

**Mathematics 206.** Analytic Geometry of Two and Three Dimensions.....Half course.

This course, which begins with conic sections, embraces the chief topics of plane and space geometry that are of common interest to both the science and the engineering student. It includes the following:—The principal properties of the parabola, the ellipse, the hyperbola. Coordinate transformations and polar coordinates. Method of distinguishing type of conic from its unreduced equation. Some "higher" plane curves. Parametric equations. Cartesian spherical and cylindrical coordinates in space. Equations of lines, planes, cylinders, cones and surfaces of revolution. An introduction to the study for quadric surfaces.

LECTURES: *Three hours a week for one term.*

TEXT-BOOK: Smith, Salkover and Justice: *Analytic Geometry.*

REFERENCE BOOKS: Eisenhart: *Coordinate Geometry.*

R. J. T. Bell: *Coordinate Geometry of Three Dimensions.*

**Mathematics 207.** Elementary Matrix Theory and Solid Geometry.....Half course.

Matrix algebra, determinants, inverse of a matrix with applications in solving linear equations, equivalent matrices, linear dependence, vector spaces and linear transformations, unitary and orthogonal matrices, characteristic equation of a matrix, bilinear, quadratic and hermitian forms. Throughout this are numerous applications to solid geometry.

LECTURES: *Three hours a week for one term.*

TEXT-BOOK: Hohn: *Elementary Matrix Algebra.*

**Mathematics 208.** Algebra.....Full course.

(a) The first part of this course aims at an accurate working familiarity with the following topics:—Real numbers, decimal approximations and abbreviated methods of computation. Inequalities. Complex numbers. Formal and functional properties of polynomials, polynomial equations. Rational functions.

(b) The second part embraces the following topics:—Solution of cubic and quartic equations by radicals. Systems of linear equations, determinants, matrices, linear transformations (projecture and complex). Symmetric functions of the roots of an equation. Approximation of irrational numbers by rationals, impossibility of angle trisection by ruler and compass. Sequences, limits, summation of series.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOK: Courant and Robbins: *What is Mathematics?*

REFERENCE BOOKS: Knebelman and Thomas: *Principles of College Algebra.*

Lovitt: *Elementary Theory of Equations.*

Barrand and Child: *Higher Algebra.*



**Mechanics 302**.....Half course.

Shearing Force and bending moment. Kinematics, dynamics and statics of systems of particles and of rigid bodies. Variable rectilinear and curvilinear motion. Simple harmonic motion. Moments of inertia and center of pressure.

LECTURES: *Two hours a week for two terms.*

TEXT-BOOK: *Mimeographed Problems.*

REFERENCE BOOKS: Higdon and Stiles: *Engineering Mechanics* (Prentice-Hall).  
Timoshenko and Young: *Engineering Mechanics* (McGraw-Hill).

**Mechanics 401**.....Half course.

Translation and rotation of rigid bodies. Impact. Conservation of angular momentum. Gyroscopes.

LECTURES: *Two hours a week for one term.*

TEXT-BOOK: *Mimeographed Problems.*

REFERENCE BOOKS: Higdon and Stiles: *Engineering Mechanics* (Prentice-Hall).  
Timoshenko and Young: *Engineering Mechanics* (McGraw-Hill).

### MECHANICAL DRAWING

**Mechanical Drawing 101**.....Full course.

Selection and use of drafting instruments and materials; lettering, conventional practices and symbols, sectional views and methods of reproduction; orthographic projection, auxiliary and oblique views, dimensioning, sectioning.

LABORATORY: *Three hours a week for two terms.*

TEXT-BOOK: French: *Engineering Drawing.*

**Mechanical Drawing 201**.....Full course.

Geometrical constructions of ellipses, hyperbolas, cycloids, involutes, etc., Pictorial drawings including isometric, oblique, common machine elements: screws, welding, piping, gears, pulleys and structural shapes; free-hand sketching, working and assembly drawings.

LECTURES: *1 hour Lecture—2 hours Lab. per week for two terms.*

TEXT-BOOK: French: *Engineering Drawing.*

**Mechanical Drawing 301**.....Half course.

Structural Drawing. Introduction to layout and detail drawings for structures in steel, timber and reinforced concrete.

LABORATORY: *Three hours a week for second term.*

TEXT-BOOK: French: *Engineering Drawing.*

**Mechanical Drawing 302**.....Half course.

Engineering drafting room procedure and technique in the production of working drawings of machinery, correlation between processes and design.

LABORATORY: *Three hours a week for first term.*

TEXT-BOOK: French: *Engineering Drawing.*

### MECHANICS OF MACHINES

**Mechanics of Machines 301**.....Half course.

Constrained motion; instant centers; centrodes; analysis and classification of simple mechanisms, including the quadric-crank, the slider-crank and wheel trains; design of involute gear teeth; belts and flexible couplings; cam design.

LECTURES: *Two hours a week for one term.*

LABORATORY: *Two hours a week for one term.*

### MECHANICAL ENGINEERING

**Mechanical Engineering**.....Full course.

Thermodynamics of mechanical engineering processes; steam power; I-C engines; compressors; fundamentals of refrigeration and psychrometrics; heat transfer; fluid mechanics.

REFERENCE TEXTS: Ebaugh: *Engineering Thermodynamics* (Van Nostrand).  
Severn, Miles & Degler: *Steam, Air and Gas Power* (Wiley).

LECTURES: *Two hours a week for two terms.*

**Mechanical Engineering Laboratory**.....Half course.

Measurement of technical performance of machines: boilers; I-C engines; steam engines; gas and steam turbines; compressors; fans; fuel analysis; fuel gas analysis; heat transfer.

LECTURES: *Three hours a week for two terms.*

### STRENGTH OF MATERIALS

**Strength of Materials**.....One and a half courses.

Elastic theory of matters; stress, strain, shear, bending in beams; double integration, area moment, super position and conjugate beam methods of deflections; Mohr's circle for combined stresses; torsion in shafts and springs; theory of columns; energy of strain.

REFERENCE TEXTS: Popov: *Elements of Strength* (Timoshenko & MacCullough).  
*Elements of Strength of Materials* (Van Nostrand).

LECTURES:

LABORATORY: *Three hours per week first term.*

### METALLURGY

**Physical Metallurgy**.....Half course.

Review of ferrous metallurgy; introduction to non-ferrous alloys; theory of alloys; theory and practice of heat treating, use of furnaces; pyrometers and testing equipment.

LECTURES: *Two hours a week for one term.*

LABORATORY: *Two hours a week for one term.*

TEXT-BOOK: Rollason: *Metallurgy for Engineers* (Edward Arnold).

LABORATORY NOTES.



## PHILOSOPHY

### Philosophy 201.....Half course.

A first introduction to philosophy. The primary purpose of the course is to present the elements of philosophy with simplicity and clarity.

LECTURES: *One hour a week for two terms.*

TEXT-BOOK: Sullivan: *An Introduction to Philosophy* (Bruce).

### Philosophy 202. Metaphysics and Logic.....Full course.

This science is the one natural wisdom, and has as its object the understanding of reality in its ultimate intelligibility. Since reality includes God and the physical universe, the ultimate questions of Theodicy and Cosmology find their place here. The problem of the one and the many, limitation, causality, substance and accident, the analogy of being, the nature of ontological truth, good and evil are discussed, and the various opinions are considered before the solution is proposed. In order to familiarise the student with the methods of reasoning used in Philosophy, a series of lectures in Logic is given at the start of this course.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOK: Robert J. Kreyche: *First Philosophy, An Introductory Text in Metaphysics*, Henry Holt, New York 1959.

### Philosophy 212. Metaphysics and Logic.....Full course.

This course is in substance almost equivalent to Philosophy 202.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOK: *Introduction to St. Thomas Aquinas* (Pegis).

### Philosophy 303. Psychology and Epistemology.....Full course.

The Philosophical study of Man. This course treats of the unity of Man, his vegetative life, external and internal sensation, intellect, the nature of knowledge; sense appetite, the will, habits, the human soul; the nature, origin and destiny of man. This course includes a study of the main problems of Epistemology.

LECTURES: *Three hours a week for two terms*

TEXT-BOOK: J. F. Donceel: *Philosophical Psychology*, Sheed and Ward, New York.

### Philosophy 313. Psychology and Epistemology.....Full course.

The Philosophical study of Man. This course treats of the unity of Man, his vegetative life, external and internal sensation, intellect, the nature of knowledge. At this point some of the main problems of Epistemology are discussed, followed by the study of sense appetite, the will, habits, the human soul, and the nature, origin and destiny of Man.

LECTURES: *Three hours a week for two term.*

TEXT-BOOK: J. F. Donceel: *Philosophical Psychology*, Sheed and Ward, New York.

### Philosophy 404. (a) General Ethics.....Full course.

*General Principles of Morality.* Ethics may be defined as the "philosophic science which establishes the moral order of human acts." This first section deals with the end of man, the human act, morality, duty and law, sanction and merit, properties of the Natural Law, conscience, virtue and vice. These principles are used in the remainder of the course to study the particular obligations which arise from the Natural Law.

(b) Applied Ethics. (1) Principles of Individual Ethics, Man's private obligations toward God, self and his fellow man form the matter of the second section. It treats of religion, duties with regard to one's soul and body, certain external advantages to the individual, our fellow man, justice and right, objects of natural rights, property and property titles, contracts, non-juridical obligations. (2) Principles of Social Ethics. The third section covers man's obligations as a social being. It studies man's social nature, conjugal society, the family, the state, the authority of the state, the constitution of a state, the functions of government, scope of civil legislation, executive and juridical powers, duties of citizens, international relations, occupational groups.

LECTURES: *Four hours a week for two terms.*

TEXT-BOOKS: Higgins: *Man as Man* (Bruce).

Leibell: *Readings in Ethics* (Loyola Univ. Press).

### Philosophy 414. This course is substantially equivalent to Philosophy 404.....Full course.

LECTURES: *Three hours a week for two terms.*

Fagothey, *Right and Reason* (C. V. Mosby).

### Philosophy 405. History of Ancient Greek Philosophy.....Half course.

LECTURES: *One hour a week for two terms.*

TEXT-BOOKS: Plato, *Gorgias*, translated by W. C. Helmbold, Library of Liberal Arts No. 20, Liberal Arts Press, New York.  
Plato, *Theaetetus*, translated by B. Jowett, Library of Liberal Arts No. 13, Liberal Arts Press, New York.  
Plato, *Euthyphro, Apology, Crito*, Library of Liberal Arts No. 4, Liberal Arts Press, New York.  
Plato, *Phaedo*, Library of Liberal Arts No. 30 Liberal Arts Press, New York.

### Philosophy 406. History of Mediaeval and Modern Philosophy.....Half course.

LECTURES: *One hour a week for two terms.*

TEXT-BOOKS: Descartes: *Discourse on Method*, Library of Liberal Arts, No. 19, Liberal Arts Press, New York.

"Philosophers speak for themselves", *From Descartes to Locke*, edited by Smith and Grene, Phoenix Book P. 17, University of Chicago Press 1957.

"Philosophers speak for themselves", *Berkeley, Hume and Kant*, edited by Smith and Grene, Phoenix Book P. 18 University of Chicago Press, 1957.

## PHYSICS

### Physics 101. General College Physics.....Full course.

An introductory course covering the elements of mechanics, sound, heat, light and electricity.

LECTURES: *Three hours a week for two terms.*

LABORATORY: *Three hours a week for two terms.*

TEXT-BOOK: Sears & Zemansky: *College Physics* (Addison-Wesley).

LABORATORY MANUAL: Keys, Watson and McPherson: *Experimental Physics*.

**Physics 202A**.....Half course.

A course in light and sound that is a continuation of these subjects from Physics 101. A previous course in calculus is not required but a concurrent course is desirable.

LECTURES: *Three hours per week for one semester.*

LABORATORY: *One period per week for one semester.*

TEXT-BOOK: Nightingale: *Light and Sound.*

LABORATORY MANUAL: Keys and Terroux: *Heat, Sound and Light.*

**Physics 202B**.....Half course.

A course in Heat that is a continuation of this subject from Physics 101. An elementary knowledge of differential and integral calculus is supposed.

LECTURES: *Three hours per week for one semester.*

LABORATORY: *One period per week for one semester.*

TEXT-BOOK: To be chosen.

LABORATORY MANUAL: Keys and Terroux: *Heat, Sound and Light.*

**Physics 303A**.....Half course.

A fairly rigorous course in the electrostatic field and direct current circuits. A previous course in Calculus is supposed.

LECTURES: *Three hours per week for one semester.*

TEXT-BOOK: Sears: *Electricity and Magnetism.*

LABORATORY: *One period per week for one semester.*

**Physics 303B**.....Half course.

A course that continues Physics 303A covering magnetostatics, electromagnetic induction and alternating current circuits.

LECTURES: *Three hours per week for one semester.*

TEXT-BOOK: Sears: *Electricity and Magnetism.*

LABORATORY: *One period per week for one semester.*

**Physics 304.** Theory of Measurements.....Half course.

A training in accuracy, approximate methods and probable error of calculations. A weekly assignment of problems.

LECTURES: *One hour a week for two terms.*

**Physics 305.** Advanced course in Heat.....Full course.

Kinetic theory of gases, perfect gas law; Maxwells Distribution law; Van der Waals equation; transport phenomena in gases; viscosity, thermal conductivity, diffusion; the First Law of Thermodynamics; methods of determining J. Carnot Cycle; Kelvin Scale; the Second Law of Thermodynamics; Shaw's Jacobian analysis and introduction to the thermodynamic variable. Application: latent heat equations; surface tension; e.m.f. of chemical cells; thermoelectric phenomena; thermionic emission; tension and compression of rods.

LECTURES: *Two hours a week for two terms.*

TEXT-BOOK: Sears: *Introduction to Thermodynamics.*

REFERENCE BOOKS: Kiefer and Stuart: *Engineering Thermodynamics.*  
Lewis and Randall: *Thermodynamics.*

**Physics 306**.....Full course.

*Circuit Analysis:* The fundamentals of the analysis of linear circuits to steady, time varying periodic and non-periodic currents and voltages.

LECTURES: *Two hours a week for two terms.*

*Three hours of problems a week, second term.*

**Physics 313.** Introduction for Theoretical Mechanics.....Full course.

Fundamental principles, statics of a particle and of a rigid body, work and energy, gravitation, principle of virtual work, a particle in a uniform force field, harmonic oscillator, motion of a system of particles, plane motion of a rigid body, central force fields, motion of a particle in an accelerated reference frame, motion under constraints, motion of a rigid body in three dimensions.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOK: Becker: *Introduction to Theoretical Mechanics.*

**Physics 408.** Electron-tube Circuits.....Full course.

Complex number methods of solving A.C. circuits; network theorems, characteristics of electron tubes, triodes as circuit elements, basic amplifier principles, feedback in amplifiers, rectifiers, special electronic circuits, oscillators, heavily biased relaxation oscillators, saw-tooth sweep generators, electronic instruments.

LECTURES: *Two hours a week for two terms.*

TEXT-BOOK: Seely: *Electron Tube Circuits.*

LABORATORY: *Four hours a week for two terms.*

**Physics 409.** D-C Motors.....Half course.

An elementary course in electrical engineering.

LECTURES: *Two hours a week for one term.*

TEXT-BOOK: *Principles and Practice of Electrical Engineering* (Gray and Wallace).

**Physics 410** Atomic Physics.....Half course.

Advent of quantum mechanics and relativity; Atoms and quanta; Spectroscopy; the nuclear atom; Rutherford, Bohr theory of hydrogen spectrum; Bohr-Sommerfeld quantization; Uncertainty principle; further details of atomic spectra; Zeeman effect.

LECTURES: *One hour for two terms.*

TEXT-BOOK: Herzberg: *Atomic spectra and Structure.*

**Physics 414.** Advanced Course in Classical Mechanics.....Full course.

D'Alembert's principle, variational principles, Lagrange's equations, Hamilton's principles, scattering in central-force field, kinematics of rigid body motion, rigid body equations of motion, special relativity, Hamilton's equations of motion, canonical transformations, Hamilton-Jacobi theory, small oscillations, continuous systems and fields.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOK: Goldstein: *Classical Mechanics.*

**Physics 415.** .....Full course.

Selected topics from vector analysis, classical mechanics, partial differential equations, matrices and calculus of variations to prepare Chemistry students for a study of quantum mechanics.

LECTURES: *Three hours a week for two terms.*

**Physics 416**.....Half course.

*Advanced Light:* Principles of geometrical optics; physical optics, interference and diffraction, polarization, dispersion, radiation and spectra, magneto and electro-optics and the scattering of light.

LECTURES: *Two hours a week first term.*

*One hour a week second term.*

*Three hours of laboratory a week for two terms.*



## POLITICAL SCIENCE

**Political Science 201**.....Full course.  
An introduction to Political Science. A basic course in the fundamentals and significance of Political Science.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOK: R. Rienow: *Introduction to Government* (A. Alfred Knopf).

**Political Science 217.** The Middle East.....Full course.  
A brief historical and political survey of the area, with a study of the modern political institutions of the Middle Eastern States.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOK: S. Fisher: *The Middle East* (A. Alfred Knopf).

**Political Science 237.** International Law and Diplomacy...Full course.  
An introductory course. A study of the principle mores, customs, rules and laws set up to regulate and control international relations among states in the political, diplomatic, economic and cultural fields.

LECTURES: *Three hours a week for two terms.*

TEXT-BOOK: O. Svarlien: *Introduction to the Law of Nations* (McGraw-Hill).

**Political Science 311**.....Full course.  
Prerequisite Political Science 201 Comparative Study of Governments.  
An analysis of the institutional and structural functions of the United Kingdom, Canada, France, Germany, the U.S.A. and the U.S.S.R.

TEXT-BOOK: Carter, Ranney, Herz: *Major Foreign Powers* (Harcourt, Brace and Company).

## PUBLIC SPEAKING

A graduated course with exercises in vocal drill, expression, gesture, interpretation and delivery.

LECTURES: *One hour a week for two terms.*

## SCIENCE

**Science 401.** History of Science.....Half course.  
The beginnings of Science in the East. Egyptian Science. Science in Greece and Rome. The "Dark" Ages. Hindu and Arabian Science. Medieval Science. Science in the Renaissance. The rise of Modern Science. Science and invention in the eighteenth, nineteenth and twentieth centuries.

LECTURES: *One hour a week for two terms.*

TEXT-BOOK: Sedgwick & Tyler: *A Short History of Science.*

REFERENCE BOOKS: Moore: *History of Chemistry.*  
Nordenskiöld: *History of Biology.*

## SPANISH

**Spanish 101**.....Full course.  
Introductory course in Spanish grammar and elementary Spanish reading.

LECTURES: *Two hours a week for two terms.*

TEXT-BOOKS: Keniston: *Learning Spanish* (Holt).

Grismer & Olmsted: *A México por Automovil.*

**Spanish 202**.....Full course.  
Reading from modern Spanish and Spanish-American authors. Spanish Composition.

LECTURES: *Two hours a week for two terms.*

TEXT-BOOKS: Tarr and Centeno: *Spanish Review Grammar* (Appleton Century Crofts).

Ashburn: *Selected Spanish Short Stories* (Crowell).

## SOCIOLOGY

**Sociology 101**.....Full course.

(1) *The Study of Sociology.* The Nature and Development of Sociology, The Catholic Viewpoint in Sociology.

(2) *Man's Biological Heritage.* Individual Heredity, Heredity and Environment, Racial Heredity, Race Mixture and Race Prejudice.

(3) *Man's Cultural Heritage.* Culture and Culture Change, Early Prehistoric Backgrounds, The Dawn of Civilization, Culture of Primitives.

(4) *Man's Social Nature.* The Physical Basis of Personality, Group Interactions and Personality, Major Personality Maladjustments, Minor Personality Maladjustments.

(5) *Collective Behavior.* The Basis for the Social Processes; Competition, Conflict and Cooperation; Accommodation, Assimilation and Stratification; Social Control.

(6) *The Community.* Human Ecology; Population and Migration; Types of Communities; Urban and Rural.

(7) *Social Institutions.* Economic Institutions, Governmental Institutions, Educational Institutions, Religious Institutions, The Family.

(8) *Social Maladjustments.* Social Disorganization; Poverty and Dependency; Crime and Punishment.

*Two hours a week for two terms.*

TEXT-BOOKS: Murray: *Introductory Sociology* (Crofts).

*A Code of Social Principles* (C.S.G., Oxford).

Zahn: *Readings in Sociology.*

## SUMMER SCHOOL

**Summer School.** A course in Mechanical Drawing and Machine Shop Work for a period of four weeks.

## SUMMER ESSAY

Students entering the Senior Year of the Engineering Course must submit an essay. The most suitable subject for the essay is a topic drawn from the experience of the student during his summer work, but a similar topic connected with any engineering, scientific or industrial work with which he is familiar is acceptable. This essay should be approximately two thousand words in length and should be handed in not later than October 3rd.

## SURVEYING

**Surveying 201**.....Half course.

Kinds of surveying operations: the chain, the tape and their use. The engineer's level; differential and profile levelling. The engineer's compass, its use; local attraction in magnetic surveys. The transit and transit traverses; stadia: circular curves; calculation of areas by the method of total coordinates.

LECTURES: *Two hours for one term.*

REFERENCE BOOKS: Davis and Foote: *Surveying* (McGraw-Hill).

Breed: *Surveying* (Wiley).



**Surveying 301**.....Half course.

Adjustment of level and transit; theory and use of the polar planimeter; double meridian distance method of calculating areas; omitted measurements and partition of land; cross-sections and borrow pits; circular curves and spirals; vertical curves.

LECTURES: *Two hours for one term.*

REFERENCE BOOKS: Davis and Foote: *Surveying* (McGraw-Hill).  
Breed: *Surveying* (Wiley).

**Surveying 302.**

Surveying problems; earthworks calculations using the polar planimeter.

LABORATORY: *Three hours for one term.*

**Surveying 352. Field Work.** Practice in chaining and taping; use of the level and of the transit; complete survey of a tract of land.

Four Weeks' Summer School.

**Surveying 377. Field Work.** Preliminary railway or highway survey with transit, profile and topography parties; plane table, hand level and stadia; spiral curves; cross-sectional simple triangulation networks; reciprocal levelling; soundings; current-meter surveys; introduction to mine surveying; small geological survey with Brunton compass and chain; astronomical observations.

Four weeks' Summer School.

**THEOLOGY**

**Theology 101. Survey Course in Theology**.....Full course.

A brief treatment of the main points of Theology; Trinity, Life of Grace, Original Sin, Redemption, the Church, Mass and the Sacraments.

Introduction to Sacred Scripture:

(1) *Basic terms:* Revelation, Inspiration, Inerrancy, Literary forms, Development of doctrine, Scriptural Canon, Criticism and Interpretation, Biblical Theology and Tradition, etc.

(2) *Basic Background:* Historical, political, religious and cultural milieux affecting the major books of Scripture.

(3) *Basic Readings:* Introduction to, and selected readings from, the principal classes of sacred writing, with a view to grasping some of the fundamental themes that are keys to understanding the books.

LECTURES: *Two hours a week for two terms.*

**Theology 201. Scripture I & II: Old and New Testaments**.....Full course.

The lectures will introduce and comment on each of the sacred books. Basic problems peculiar to major works (such as Genesis I-XI, Job, The Synoptics, Romans, etc.) will be treated. Emphasis on special areas or problems will be determined by the particular interests of the students, grouped accordingly for discussion sessions, papers and research. Pivotal Semitic ideas and biblical themes of Old and New Testaments will be interrelated. The important archaeological discoveries of recent times, especially of the Dead Sea Scrolls, will be discussed.

LECTURES: *Two hours a week for two terms.*

**Theology 202. Theology of the Layman**.....Full course.

In terms of the theology of Baptism, Confirmation, Mystic. Body:

(1) *Basic notions:* Layman, laicism, lay priesthood, lay apostolate, social apostolate, local community, lay sanctity, lay witness, etc.

(2) *The Man of Two "Cities":* The individual and social role of the layman as somehow *in and of* both the Church and the World. The role of communication and dialogue.

(3) *Of Work and Worship:* The role peculiar to the layman in the family, the local community, the world of human affairs and the world of culture and intellect. Social justice and charity, and the "total restoration". The practical synthesis of life, labour and liturgy. Organized forms of lay spirituality, lay apostolate, and missionary techniques. Official Catholic Action. Secular Institutes.

(4) *Modern Trends and New Beginnings:* Historical sketch of the relationship between the Church and "The West". The movement out of "ghetto". The problems of secularism, liberalism, conservatism, nationalism. The Church and the State. The layman and "post-modern" times. The lay missionary movement, the married diaconate, the Papal volunteers, the Movement for a Better World, etc.

LECTURES: *Two hours a week for two terms.*

**Theology 203. Ecclesiastical History**.....Full course.

A survey of the history of the Church from the time of the apologists until the thirteenth century, with special reference to the General Councils of the Church and the christological controversies in the early years and to the origins and expansion of monasticism and the problems of church organization and discipline in medieval period.

TEXT-BOOK: Philip Hughes: *The Church in Crisis* (Doubleday, New York).

LECTURES: *Two hours a week for two terms.*

**Theology 204. Select Questions from the Summa Theologiae of St. Thomas**.....Full course.

The first term will deal with questions from the Prima Pars and touch on the nature of Sacred Doctrine, our knowledge of God, the names of God, His knowledge, will, power and providence. In the second term selections will be taken from the Prima Secundae on Grace and the moral and theological virtues.

TEXT-BOOK: *Introduction to St. Thomas Aquinas (Pegis)*

LECTURES: *Two hours a week for two terms.*

**Theology 205. Liturgical Worship and Sharing Divine Life**.....Full course.

Special emphasis on the Mass—its nature, historical development, meaning, need and problems of active lay participation. The Eucharist as Sacrament and Sacrifice—nature of sacrifice—pre-christian sacrifices, sacrifice of the cross and Christ's priesthood—sacrifice of the Mass as true sacrifice.

TEXT-BOOK: *The Mass—Jungmann.*  
*Letter of the Hebrews.*

LECTURES: *Two hours a week for two terms.*



**Theology 206. The Church—the Mystical Body of Christ.....Full course.**

Study of the historical development of the Church in the Old Testament—fulfillment and transcendence of promises of the old Covenant by the Kingdom of God founded by Christ—the final fulfillment and perfection of the Church after Christ's second coming—importance of the resurrection of Christ—resurrection of the body and the re-generation of the world. Nature of the Church in our time—study of the functions and obligations of the hierarchy with emphasis on the layman's role in the Church's development—Church seen as the Mystical Body of Christ.

LECTURES: *Two hours a week for two terms.*

TEXT-BOOKS: *The Church—a Divine Mystery—Hasseveldt.*

*The Mystical Body of Christ—Piux XI (Encyclical).*

**Theology 207. The Theology of Grace.....Full course.**

This course is aimed to help the student to arrive at an understanding of the theology of grace by means of a historical study of the doctrine and of the controversies which surrounded it. St. Paul's Epistles to the Galatians and to the Romans will be studied, as well as the Pelagian and Semipelagian controversies of the fifth and sixth centuries. Then the controversies of the Reformation will be studied. The positive insights of Luther and the Reformers will be examined, as well as the negative elements in the reformation, which prevented it from being a movement within traditional Catholic theology, and made it instead into a separatist movement.

LECTURES: *Two hours a week for two terms.*

**Theology 208. An Introduction to Newman.....Full course.**

The course will begin with the autobiographical writings and move from the Sermons through the controversies to his fully developed theological and philosophical inquiries.

LECTURES: *Two hours a week for two terms.*

TEXT-BOOKS: *Apologia Pro Vita Sua.*

*Loss and Gain.*

*The Development of Doctrine.*

*A Grammar of Assent.*

*The present Position of Catholics in England.*



**SCHOLASTIC YEAR**

**1960 - 1961**

**FEES**

**Tuition**

**Arts (General course)**

Freshman.....	\$175.00 per half year	\$350.00 per year
Sophomore.....	175.00 " " "	350.00 " "
Junior.....	175.00 " " "	350.00 " "
Senior.....	175.00 " " "	350.00 " "

**Arts (with pre-Medical subjects)**

Freshman.....	\$175.00 per half year	\$350.00 per year
Sophomore.....	175.00 " " "	350.00 " "
Junior.....	200.00 " " "	400.00 " "
Senior.....	200.00 " " "	400.00 " "

**Science and Engineering**

Freshman.....	\$200.00 per half year	\$400.00 per year
Sophomore.....	200.00 " " "	400.00 " "
Junior.....	200.00 " " "	400.00 " "
Senior.....	200.00 " " "	400.00 " "

**Commerce**

Freshman.....	\$175.00 per half year	\$350.00 per year
Sophomore.....	175.00 " " "	350.00 " "
Junior.....	175.00 " " "	350.00 " "
Senior.....	175.00 " " "	350.00 " "

**RESIDENCE**

Room and Board.....	\$720.00
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**STUDENT ACTIVITY**

Council of Student Representatives, Athletics, Drama, Debating, Publications, etc.....	\$ 30.00
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**Special**

Registration Fee (payable on first entrance only)...	\$ 5.00
Late Registration Fee.....	5.00
Surveying Summer Course .....	35.00
Library Fee.....	5.00
Laboratory Breakage Fee (non-returnable)	
Arts (pre-Medical)—	
Sophomore.....	5.00
Junior and Senior.....	15.00

**FEES Cont.**

Science and Engineering—	
Freshman.....	\$ 10.00
Sophomore, Junior and Senior Chemistry.....	15.00
Sophomore, Junior and Senior Physics.....	10.00
Sophomore, Junior and Senior Engineering.....	10.00
Supplemental examinations, each.....	5.00
Supplemental examinations on other than assigned days.....	10.00
Transcript (Full).....	1.00
Transcript (Partial).....	.50
Guarantee deposit from resident students (returnable).....	50.00
Resident students staying during the Christmas holidays, per day.....	3.50
Infirmary, per day.....	4.00
Graduation Fee:	
Arts students.....	\$ 10.00
Science and Engineering students.....	18.00
Commerce students.....	18.00

**REMARKS**

1. No deduction is made for a continuous absence less than a quarter.
2. No room will be reserved for any student unless he makes a deposit of \$50.00 against the room fee. This deposit will be returned if and only if the application for the room is cancelled by September 1st. If a room is occupied at the beginning of a term it must be paid for the entire term.
3. No student will be promoted from one class to another, or receive any degree, diploma or certificate whatsoever, until his financial accounts have been previously and satisfactorily settled.
4. The College will pay no debt contracted by the students unless a deposit is left with the Bursar. Large sums of money should not be left in the keeping of the students.
5. Any injury done to the walls or furniture of the College will be charged to the offender's account.
6. Drafts, cheques, money-orders, etc., should be made payable at par to "Loyola College" and addressed to The Bursar, Loyola College, Montreal.

N.B.—Consult Registrar concerning rates of board and room for students from outside Canada and United States.